User Guide

Lumension Endpoint Management and Security Suite

Wake on LAN 7.1

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Notices

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Preface

About This Document

This User Guide is a resource written for all users of Lumension Endpoint Management and Security Suite: Wake on LAN 7.1. This document defines the concepts and procedures for installing, configuring, implementing, and using Lumension Endpoint Management and Security Suite: Wake on LAN 7.1.

Tip: Lumension documentation is updated on a regular basis. To acquire the latest version of this or any other published document, please refer to the *Lumension Customer Portal* (*http://portal.lumension.com/*).

Typographical Conventions

The following conventions are used throughout this documentation to help you identify various information types.

Table 1: Typographical Conventions

Convention	Usage
bold	Buttons, menu items, window and screen objects.
bold italics	Wizard names, window names, and page names.
italics	New terms, options, and variables.
`MONOSPACE UPPERCASE`	Keyboard keys.
`BOLD UPPERCASE`	SQL Commands.
`monospace`	File names, path names, programs, executables, command syntax, and property names.

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Chapter 1

Wake on LAN Overview

In this chapter:

- About Wake on LAN
- About Wake Requests
- Major Features of Wake on LAN
- Advantages of Using Wake on LAN
- The Wake on LAN Process

Wake on LAN is a Lumension Endpoint Management and Security Suite (Lumension EMSS) module you can use to power on endpoints within your network without physically turning them on. With this capability, daily management tasks are simplified, desktop and laptop energy consumption is reduced, and system management tasks that interfere with employee productivity are prevented.

Wake on LAN (WOL) is a module you can install within Lumension EMSS. Use this module to control the power status of endpoints within the network (*on* or *off*), thereby managing tasks that occur at a specific time each day.

Using WOL, you can ensure swift deployment of critical security patches and ensure that every endpoint within the network is powered on during scheduled patch assessment. These functions are especially beneficial to organizations with networks containing thousands of endpoints. Using WOL, you can perform maintenance tasks for multiple endpoints after regular business hours, thus minimizing employee productivity disruption.

Note: Although WOL can wake endpoints from an off state, most network cards include security features to prevent remote boots. Therefore, Lumension recommends using WOL to wake endpoints in a sleeping or hibernating state.

About Wake on LAN

Wake on LAN (WOL) is a Lumension Endpoint Management and Security Suite module containing features you can use to power on network endpoints. To power on endpoints, Wake on LAN sends specific Wake on LAN network packets, called wake requests, to endpoints hosting the Lumension EMSS Agent.

Most network interface cards support a listening mode, enabling them to receive network packets even when the endpoints that host them are powered off, hibernating, or sleeping. You can use Wake on LAN to power on endpoints by sending network packets (known as *wake requests*) to endpoints hosting the Lumension EMSS Agent.

About Wake Requests

Wake Requests are network packets that Wake on LAN sends to network endpoints. These packets contain code that wake recipient endpoints from a suspended, hibernating, or powered-off state.

Wake requests are sent from the Lumension Endpoint Management and Security Suite to wakepoints (for additional information about wakepoints, refer to *#unique_11*. Wakepoints then relay the request to managed endpoints.

Wakepoints use *limited broadcast* to relay the wake requests to agent-managed endpoints within their subnet. During limited broadcast, the wakepoint sends the wake request to the 255.255.255.255 IP address. By sending the wake request to this address, the wake request is sent to all endpoints in the subnet. When managed agents receive the wake request, their host endpoints are woken.

Wake requests send packets called *magic packets*. Magic packets include the broadcast address (255.255.255.255) and endpoint MAC addresses, which are discovered using the Lumension EMSS Agent. When managed endpoints receive this request, they are powered on after recognizing the broadcast address and their unique MAC address.

Major Features of Wake on LAN

Wake on LAN (WOL) features are beneficial to organizations of all sizes.

You can use WOL to power on endpoints for maintenance purposes. With WOL, you can maintain large networks containing thousands of endpoints or smaller networks where an administrator only manages a handful of endpoints.

WOL includes the following features:

- Wake Windows endpoints, regardless of operating system version.
- Schedule wake requests to power on endpoints.
- Immediately send wake requests using the *Wake Now* feature.

Advantages of Using Wake on LAN

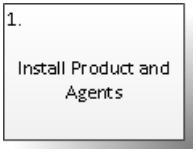
Wake on LAN contains features that benefit administrators of networks of all sizes. With Wake on LAN, you can power on endpoints at your convenience, and then complete various administration tasks.

The following list itemizes the benefits of using Wake on LAN features:

- Enables administrators to complete administrative tasks following business hours using other Lumension Endpoint Management and Security Suite modules.
- Because endpoint maintenance can be performed following business hours, employees can operate their endpoints without interruption during business hours.
- Because endpoints can be woken, employees can power off their endpoints following business hours, leading to reduced power consumption.
- Wake on LAN improves the likelihood that mobile network devices and hardware (devices with unpredictable use patterns) are scanned and updated more frequently, returning them to a state of security policy compliance.
- Wake on LAN automation features ensure administrators do not have to repetitively schedule wake times.
- Wake on LAN requires minimum maintenance.

The Wake on LAN Process

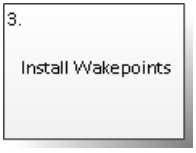
When getting started with Wake on LAN, you should perform Wake on LAN in a recommended sequence to use the product effectively.



Install Lumension Endpoint Management and Security Suite on a server and Lumension EMSS Agent on network endpoints. Installing these products creates the infrastructure to wake network endpoints without being physically present at the endpoints.

Install the Wake on LAN module (the Wake on LAN module server component) on the Lumension Endpoint Management and Security Suite Server. During this process, all components needed to send network endpoints wake requests are installed.

Note: By default, the Wake on LAN module is installed with Lumension Endpoint Management and Security Suite. Therefore, installing the module manually is usually unnecessary.



Define wakepoints. During this step, theWakepoint module (the Wake on LAN module endpoint component) is installed on network endpoints hosting agents. Wakepoints are agents that relay server wake requests to other agents in the wakepoint's network segment (VLAN). Each network segment should contain at least one wakepoint. However, Lumension recommends installing several wakepoints in each network segment in the event that a router blocks a wake request.

Schedule wake times. During this step, you define how Wake on LAN schedules the time to send endpoint wake requests. You can schedule wake times using either agent policy set hours of operation or a custom wake time assigned to specific groups. After the wake time is scheduled, Wake on LAN broadcasts wake requests at the scheduled time, and network endpoints are woken.

Note: You can only schedule wake times using agent hours of operation when the Patch and Remediation module is installed.

Chapter 2

Installing Wake on LAN

In this chapter:

- Explaining Module Subcomponents
- Installing the Module Server Component
- Uninstalling the Wake on LAN Module Server Component
- Defining Wakepoints
- Post Installation Tasks
- Updating the Wake on LAN Module

Successful installation of the Lumension Endpoint Management and Security Suite Server and Agent components is vital to installing Wake on LAN.

Wake on LAN is a module within the Lumension Endpoint Management and Security Suite (Lumension EMSS). Prior to installing the Wake on LAN module, you must have an operating Lumension EMSS setup in place.

For information on how to install the Lumension EMSS Server, refer to the *Lumension Endpoint Management and Security Suite 7.1 Server Installation Guide* (*http://portal.lumension.com*).

To install the Lumension EMSS Agent on endpoints, refer to the *Lumension Endpoint Management and Security Suite 7.1 Agent Installation Guide* (*http://portal.lumension.com*).

Explaining Module Subcomponents

Each Lumension Endpoint Management and Security Suite module is composed of two subcomponents: the server component and the endpoint component.

Server Component	This subcomponent is installed on the Lumension Endpoint Management and Security Suite server. The server component must be installed before the endpoint component.
Endpoint Component	This subcomponent is installed on endpoints hosting a Lumension Endpoint Management and Security Suite Agent. Endpoint components can be installed after the server component and agents are installed.

Minimum Hardware Requirements

To successfully install Wake on LAN on the Lumension Endpoint Management and Security Suite server, your computer must meet or exceed the specified hardware requirements.

To install the Wake on LAN module, you must meet the following requirements:

- The server must have Lumension Endpoint Management and Security Suite 7.0 SP1 or later installed.
- The server must meet all hardware and software requirements defined in the *Lumension Endpoint Management and Security Suite 7.1 Server Installation Guide* (*http://portal.lumension.com*).
- The target endpoints must be Windows-based and have Wake on LAN enabled within BIOS.

Supported Wakepoint Client Environments

The Wake on LAN module endpoint component, known as the wakepoint, can be installed on any 32- or 64-bit Windows endpoint hosting the Lumension Endpoint Management and Security Suite Agent, version 7.1.0.04 or later.

A *wakepoint* is an endpoint that receives wake requests from Lumension Endpoint Management and Security Suite and relays it to other endpoints using UDP broadcast.

Note: By default, Wake on LAN does not have any defined wakepoints. Wakepoints must be defined before you can begin using Wake on LAN features.

The following table lists the supported platforms on which the agent is supported.

Table 2: Supported Operating Systems

Operating System	Version	Edition	Data Width	Proc. Family	Software Prerequisites	Agent Version
Microsoft Windows XP SP2+	5.1	Professional (2)	32/64 bit	Intel	Microsoft Windows Installer 2.0+	Lumension EMSS 7.1 Agent
Microsoft Windows 2003 SP1+	5.2	Web Standard Enterprise R2	32/64 bit	Intel	Microsoft Windows Installer 2.0+	Lumension EMSS 7.1 Agent
Microsoft Windows Vista	6.0	Business Enterprise Ultimate	32/64 bit	Intel	Microsoft .NET Framework 3.0+	Lumension EMSS 7.1 Agent
Microsoft Windows Server 2008	6.0	Web(3) Standard Enterprise	32/64 bit	Intel	Microsoft .NET Framework 3.0+	Lumension EMSS 7.1 Agent
Microsoft Windows 7	7	Professional Enterprise Ultimate	32/64 bit	Intel	Microsoft .NET Framework 3.0+	Lumension EMSS 7.1 Agent

Operating System	Version	Edition	Data Width	Proc. Family	Software Prerequisites	Agent Version
Microsoft Windows 2008 R2	7	Standard Enterprise Web	64 bit	Intel	Microsoft .NET Framework 3.0+	Lumension EMSS 7.1 Agent
(1) The Datacenter editions of this OS family are not supported.						
(2) Home, Media Center, and Tablet PC editions are not supported.						
(3) The Datacenter and Core Editions of this OS family are not supported.						

Refer to *Defining Wakepoints* on page 16 for more information on configuring Windows endpoints to act as wakepoints.

Installing the Module Server Component

To begin using Wake on LAN (WOL, you must first install the module server component on your Lumension Endpoint Management and Security Suite (Lumension EMSS) server.

Install the Wake on LAN platform component using the Lumension Installation Manager. For additional information on using the Lumension Installation Manager, refer to the *Lumension Endpoint Management and Security Suite 7.1 User Guide* (*http://portal.lumension.com*).

Notice: The Wake on LAN module is considered part of the Lumension EMSS platform and is therefore listed as a platform component within Installation Manager.

1. Select **Tools** > **Launch Installation Manager...**.

   Step Result: Installation Manager opens to the ***New/Update Components*** tab.

2. Select the **Wake on LAN** check box for your version number of Lumension Endpoint Management and Security Suite.
3. Click **Install**.

   Step Result: The ***Install/Update Components*** dialog opens.

4. Review the list of component(s).
5. Click **Install**.

   Step Result: A ***Install/Update Components*** dialog opens, notifying you that installing the module may cause a logged in user to lose their work.

6. Click **OK**.

   Step Result: The installation begins. This process may take several minutes.

7. Click **Finish**.

   Tip: Select the **Launch Lumension EMSS** check box to relaunch Lumension Endpoint Management and Security Suite after clicking **Finish**.

Result: The **Wake on LAN** platform component is installed. To begin using the platform component, reopen Lumension Endpoint Management and Security Suite.

After Completing This Task:

Complete *Post Installation Tasks* on page 19

Uninstalling the Wake on LAN Module Server Component

The Wake on LAN module server component is listed as a platform component within Lumension Installation Manager. Platform components cannot be uninstalled.

Tip: For additional information on using the Lumension Installation Manager, refer to *Lumension Endpoint Management and Security Suite 7.1 User Guide* (*http://portal.lumension.com*).

Defining Wakepoints

Before you can begin waking managed endpoints, you must define an agent-managed endpoint as a wakepoint within each network segment (VLAN). Wakepoints relay wake requests from the Lumension Endpoint Management and Security Suite to other network endpoints. You cannot use Wake on LAN (WOL) features within your network until you define wakepoints.

Prerequisites:

Ensure agents are installed on endpoints you want to define as wakepoints.

1. Log in to Lumension EMSS.

   For addition information refer to *Logging In to Lumension Endpoint Management and Security Suite* on page 21.

2. Select **Tools** > **Wake on LAN**.

   Step Result: The ***Wake on LAN*** page opens to the **WOL Configuration** tab.

3. From **Wake Times** section, select how you will wake managed endpoints.
   Select one or both of the following options.

Option	Description
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)	Wakes endpoints based on the hours of operation (HOP) setting defined in an agent policy set. Wake requests are sent when at the beginning of a HOP range. **Note:** This option is only available when the Patch and Remediation module is installed.
Wake endpoints using custom daily wake times defined for groups	Wakes endpoints in selected Lumension Endpoint Management and Security Suite groups at a user-defined time.

Step Result: Wake on LAN is enabled.

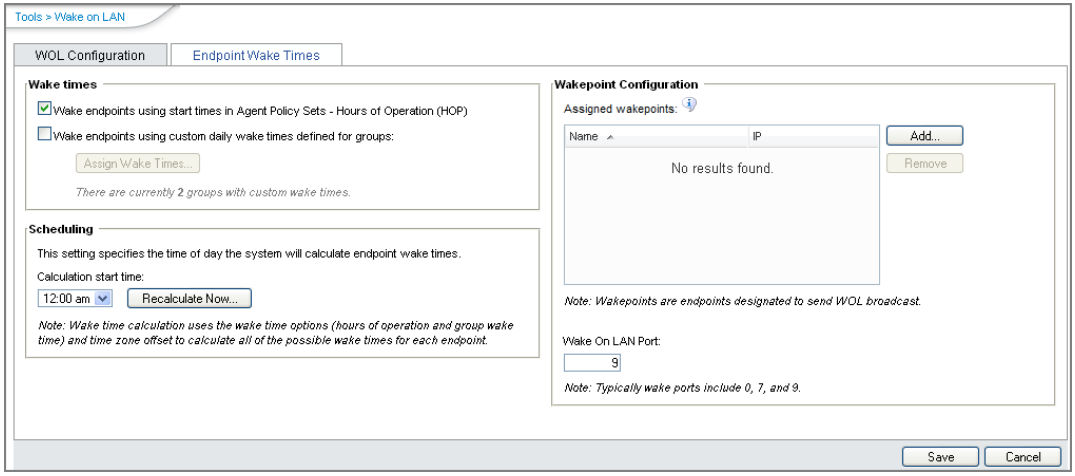

Tools > Wake on LAN
WOL Configuration
Endpoint Wake Times
Wake times
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)
Wake endpoints using custom daily wake times defined for groups:
Assign Wake Times...
There are currently 2 groups with custom wake times.
Scheduling
This setting specifies the time of day the system will calculate endpoint wake times.
Calculation start time:
12:00 am
Recalculate Now...
Note: Wake time calculation uses the wake time options (hours of operation and group wake time) and time zone offset to calculate all of the possible wake times for each endpoint.
Wakepoint Configuration
Assigned wakepoints:
Name
IP
No results found.
Add...
Remove
Note: Wakepoints are endpoints designated to send WOL broadcast.
Wake On LAN Port:
9
Note: Typically wake ports include 0, 7, and 9.
Save
Cancel

Figure 1: Wake on LAN Page

4. From the **Wakepoint Configuration** section, add wakepoint(s).

   Wakepoints are managed endpoints with the Wakepoint module installed. Wakepoints relay wake requests from Lumension Endpoint Management and Security Suite to managed endpoints within your network.

   a) Under assigned wakepoints click **Add**.

   Step Result: The ***Add Wakepoints*** dialog opens.

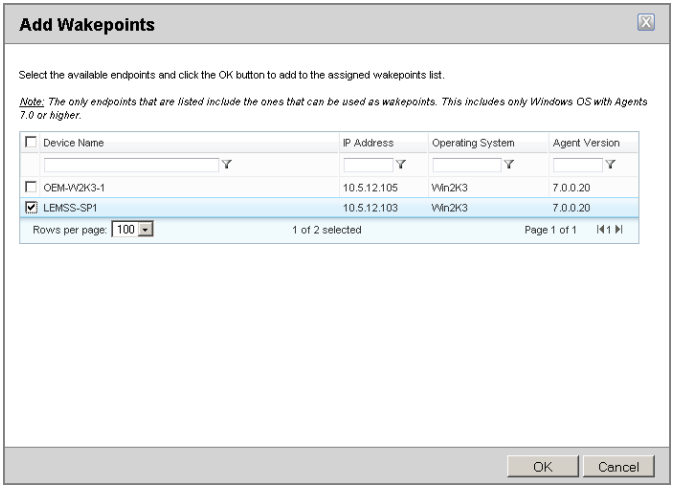


Figure 2: Add Wakepoints Dialog

   b) Select the endpoints you want to install the wakepoint module on.

   c) Click **OK**.

   Step Result: The ***Add Wakepoints*** dialog closes.

5. Click **Save**.

   Step Result: The changes to your configuration are saved.

6. To replicate all license, system, and content changes since the last replication with the Global Subscription Server, perform the following substeps:

   a) Select **Tools** > **Subscription Updates**.

   b) Click **Update Now**.

   Step Result: Your subscription information is updated. This process may take several minutes.

7. Define the **Agent Versions** option.

   Ensure Lumension Endpoint Management and Security Suite is configured to offer Wake on LAN compatible agents for wakepoints.

   a) Select **Tools** > **Options**.

   b) Select the **Agents** tab.

   c) From the **Agent Version** section, locate the **Windows XP and newer agent version** field.

   d) From the **Windows XP agent version** list, select **7.1.0.4** or higher.

8. Define the agent version for each wakepoint by completing the following substeps.

   Ensure each wakepoint is configured to use Wake on LAN compatible agents.

   a) From the navigation menu, select **Manage** > **Endpoints** .
   b) Select the endpoints defined as wakepoints.
   c) Click **Agent Versions...**

      Step Result: The ***Manage Agent Versions*** dialog opens.

   d) From the **Agent Version** list, select **7.1.0.4** or higher for each agent.
   e) Click **OK**.

Result: Lumension Endpoint Management and Security Suite installs the new agent version (if necessary) and the wakepoint on the selected endpoints.

Post Installation Tasks

Following installation of the Wake on LAN module server component and the defining wakepoints, you must perform select tasks before you can use Wake on LAN features.

- Endpoints to be woken must have an agent installed, must successfully register with the Lumension Endpoint Management and Security Suite server, and must successfully complete a Discover Applicable Updates (DAU) task. IP address and MAC address information collected during the DAU task are required by Wake on LAN.
- Endpoints to be woken must have functional Lumension Endpoint Management and Security Suite Server-to-Agent communication.
- Endpoints to be woken must have been booted at least once. Endpoints that have never been powered on cannot be woken using Wake on LAN.
- Endpoints to be woken must currently be in a sleeping or hibernating state. Many NIC cards do not support waking endpoints from an off state for security reasons.
- Endpoints to be woken must have power still connected to the NIC card. Endpoints cannot be woken without a powered NIC card.

Important: Though the server components of Wake on LAN can run on a virtual server, the endpoints to be woken must be physical endpoints. Virtual machines do not respond to Wake on LAN requests.

Updating the Wake on LAN Module

Periodically, Lumension releases updates for Wake on LAN. Install the latest release to keep Wake on LAN up to date.

Lumension recommends installing updates immediately. Update Wake on LAN using the Lumension Installation Manager.

1. Select **Tools** > **Launch Installation Manager...**.

   Step Result: Lumension Installation Manager opens to the ***New/Update Components*** tab.

2. Select the **Wake on LAN** check box.

   Note: This check box is only available if there is an update for the module.

3. Click **Install**.

   Step Result: A dialog opens, informing you of the upgrade.

4. Click **Install**.

   Step Result: The upgrade process begins. This process may take several minutes.

5. Click **Finish**.

Result: The module is upgraded. Restart Lumension Endpoint Management and Security Suite to complete the upgrade.

Chapter 3

Using Lumension Endpoint Management and Security Suite

In this chapter:

- Supported Browsers
- Common Functions within Lumension Endpoint Management and Security Suite
- The Home Page

Within Lumension Endpoint Management and Security Suite (Lumension EMSS), you can use a number of common functions to navigate and operate the system. After you log in, Lumension EMSS opens to the ***Home*** page.

Supported Browsers

Lumension Endpoint Management and Security Suite is managed using a Web browser.

The following list defines the Web browsers supported byLumension Endpoint Management and Security Suite, along with other software required to use all Lumension Endpoint Management and Security Suite functions.

- Internet Information Services (IIS) 6.0 or later.
- One of the following; Microsoft Internet Explorer 7, Microsoft Internet Explorer 8, or Mozilla Firefox 3.5.x.
- Microsoft Silverlight™.

Logging In to Lumension Endpoint Management and Security Suite

Lumension Endpoint Management and Security Suite (Lumension EMSS) is an Internet application that conforms to standard Web conventions. You can access the application's console from a Web browser. Log in to the Lumension EMSS Server to begin using product features.

Prerequisites:

Microsoft Internet Explorer 7, Microsoft Internet Explorer 8, or Mozilla Firefox 3.5.x. must be installed.

You can access the console from any endpoint within your network.

1. Open your Web browser.
2. In your browser’s address bar, type the Lumension EMSS URL (http[s]://*ServerIPAddress*).

3. Press ENTER.

   Step Result: The ***Connect to*** dialog opens.

The server 10.10.10.10 at 10.10.10.10 requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
User name:
TechPubsUser
Password:
Remember my password
OK
Cancel

Figure 3: Connect to Dialog

Note: If using Mozilla Firefox, the dialog appears differently.

4. Type your user name in the **User name** field.

   When logging in for the first time, type the user name of the Windows user account used to install Lumension EMSS. You can use additional user names after adding new user profiles to Lumension EMSS. If logging in using a domain account, type the name in the following format: `DOMAIN\Username`.

5. Type your password in the **Password** field.
6. Click **OK**.

Result: Lumension EMSS opens to the ***Home*** page.

Logging Out of Lumension Endpoint Management and Security Suite

After you finish using Lumension Endpoint Management and Security Suite (Lumension EMSS), log out of the system to ensure no unauthorized users access the console.

1. Browse to the navigation menu.

2. Click **Log Out**.

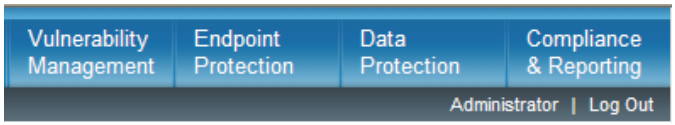


Figure 4: Log Out Link

Result: You are logged out of Lumension EMSS, and the ***Logout*** page displays.

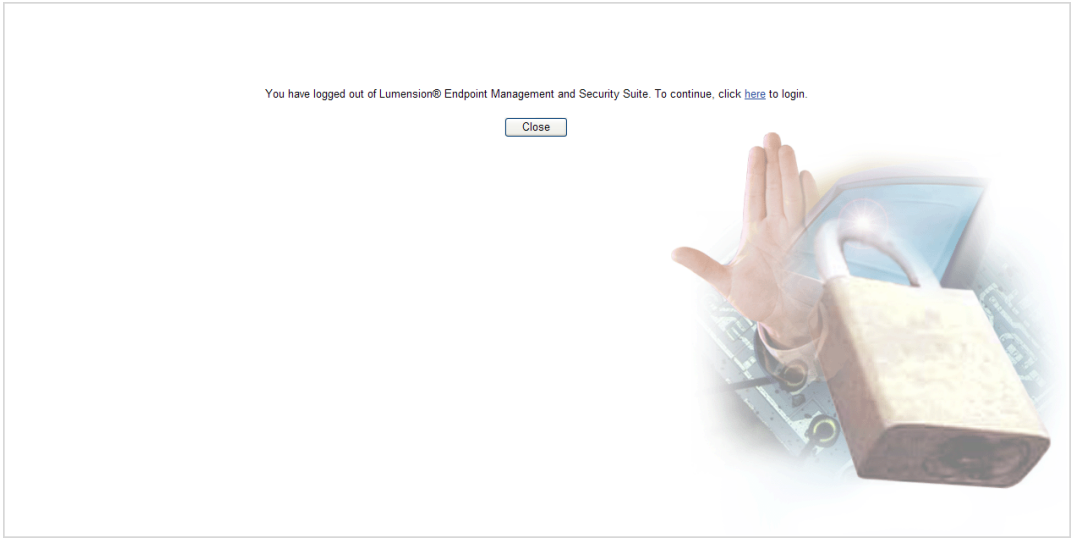


Figure 5: Log Out Page

Common Functions within Lumension Endpoint Management and Security Suite

Lumension Endpoint Management and Security Suite (Lumension EMSS) uses both standard Web browser conventions and functions specific to itself. Familiarity with these common functions facilitate efficient product use.

From the navigation menu and system pages, you can access all features and functions your access rights authorize. The topics that follow provide instructions on how to use common functions.

Common Conventions

This application supports user interface conventions common to most Web applications.

Table 3: Common User Interface Conventions

Screen Feature	Function
Entry Fields	Type data into these fields, which allow the system to retrieve matching criteria or to enter new information.
Drop-Down Menus	Displays a list to select preconfigured values.
Command Buttons	Perform specific actions when clicked.
Check Boxes	A check box is selected or cleared to enable a feature, disable a feature, or initiate function for a list item. Some lists also include a **Select All** check box that lets you select all the available listed items on that page.
Radio Buttons	Select the button to select an item.
Sort	Data presented in tables can be sorted by ascending (default) or descending order within a respective column by clicking on a (enabled) column header.
Mouseovers	Additional information may be displayed by hovering your mouse pointer over an item.
Auto Refresh	Where present and when selected, the auto refresh function automatically refreshes the page every 15 seconds.
Scrollbars	Drag to see additional data that does not fit the window.
Tabs	Click on the tab name to switch to different information related to the specific page or dialog.
Bread Crumb	Names the page you are currently viewing, that page's parent page (if applicable), and the navigation menu item that opened the displayed page. If viewing a page that is child of another page, you can view the parent page by clicking the bread crumb, which also serves as a link, allowing you to retrace your steps.
Tip: Most system pages support right-click.	

Toolbars

Toolbars appear near the top of most system pages. These toolbars contain menus and buttons that let you use product features specific to the displayed page.

The menus and buttons displayed vary according to page. Additionally, user access rights determine which buttons are available for use. Click the available buttons and menus to use them.

Figure 6: Toolbar

List Pages

Most Lumension Endpoint Management and Security Suite pages feature lists of selectable items. These items represent a series of product features that can be edited using menus and buttons.

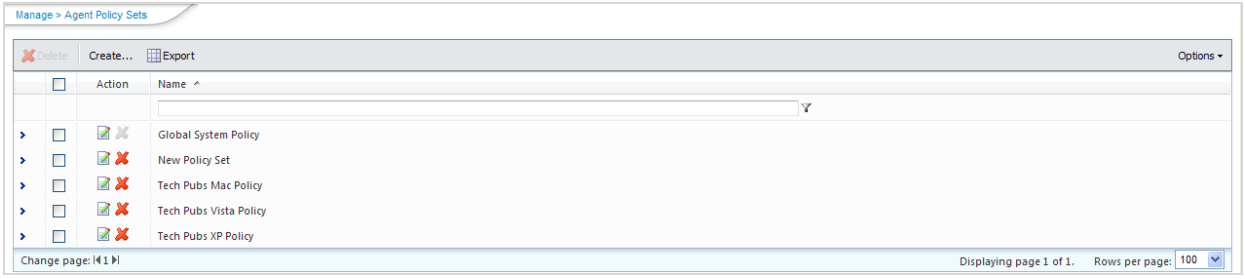


Figure 7: List Page

You can select individual list items. To select a list item:

- Select a check box.
- Click a list row.

You can select multiple list items. To select multiple list items:

- Select all list items by selecting the **Select All** check box.
- Select multiple, non-concurrent items by using `CTRL+Click` over list rows or check boxes.
- Select multiple, concurrent items by using `SHIFT+Click` over list rows or check boxes.

The Page Banner

A page banner displays on Lumension Endpoint Management and Security Suite pages that pertain to a specific module component. Use this banner to identify the module that the page belongs to.

For example, pages pertaining to Lumension Patch and Remediation display a Patch and Remediation page banner. Page banners are color coded by module.

Figure 8: Page Banner Example

The Options Menu

Toolbars feature an **Options** menu, whose function is to set page views, filter data, and enable clipboard copy. Menu items vary based on the functions applicable to the selected page.

The following functions can be found on the **Options** menu.

Table 4: Options Menu Items

Option	Description
Show results on page load	If enabled, automatically provides query results based on the default filters. If disabled, you must define the available page filters and click **Update View** to view query results. For more information, see *Filters* on page 26.
Save as default view	Saves the current visual setting as the default view for the selected page and the logged in user.
Clear default view	Resets a saved default view to the system default view. **Note:** This option is only available on certain pages.
Show Group By Row	Sorts list items into groups based on column headers. For more information, see *Group By* on page 29.
Enable Copy to Clipboard	Enables selected text to be copied to the clipboard and pasted into a text editor. **Note:** Selecting this option disables other features, such as the right-click context menu, or dragging to select multiple list items.
Note: Some menu item titles change according to context. For example, if you select **Show Group By Row** to view the **Group By** row, the menu item title changes to **Hide Group By Row**.	

Filters

Filters appear on most list pages. You can use them to search pages for specific data.

Depending on which page you viewing, you can filter pages using one of the following features. Only one feature appears per page.

- Filters
- Filter Row

Filters

Filters appear above page lists. They feature different fields, lists, and check boxes used for filtering. Filters vary according to page.

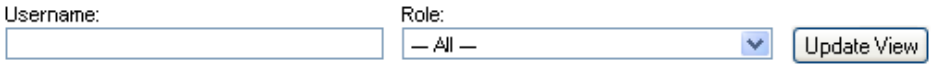


Figure 9: Filters

Additionally, you can save frequently used filter settings as your default view. To save your filter criteria, select a list page and choose **Options** > **Save as default view** from the toolbar. The toolbar **Options** menu contains the following options related to filtering.

Table 5: Filter Options

Option	Function
Show results on page load	Automatically retrieves and displays results when selected.
Save as default view	Saves the active filter and sort criteria as the default view for the page. The default view displays each time the page is accessed. You can change this setting at any time.
Clear default view	Resets a saved default view to the system default view.

Note: Your default view remains applicable until you save a new default view or clear the default view, even after browsing to a different page or logging out of Lumension Endpoint Management and Security Suite.

Filter Rows

Filter rows appear in the lists themselves. Rows feature a field for each column. Columns can be filtered using a variety of data types. For example, you can use a **Contains** filter or a **StartsWith** filter.

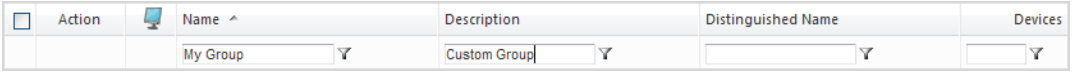


Figure 10: Filter Row

These filter are not case sensitive. Additionally, date columns filter at the lowest level of granularity; higher levels of granularity return no filter results.

Using Filters

Use filters to search for specific list items when performing other tasks.

Filters are available on most list pages.

1. Select a list page. For additional information, refer to *List Pages* on page 25.
2. Ensure filters are displayed.
   If filters are not displayed, click **Show Filters**.
3. Define filter criteria.

   Note: Available filters differ by page.

   - In filter fields, type the desired criteria.
   - From filter lists, select the desired list item.
4. If applicable, select the **Include sub-groups** check box.

   Note: This check box only appears on list pages related to groups.

5. Click **Update View**.

   Step Result: The list is filtered according to the filter criteria.

6. If desired, save the filter criteria by selecting **Options** > **Save as default view** from the toolbar.

Using Filter Rows

Some list pages use filter rows rather than filters. Use these rows, which are the first row of applicable lists, to filter column results.

These rows appear on several list pages.

1. Select a page featuring the filter row.
2. Ensure the filter row is displayed.
   If the filter row is not displayed, select **Options** > **Show Filter Row** from the toolbar.
3. Type criteria in the applicable filter row field.
4. Apply a filter type.
   a) Click the applicable **Filter** icon.

      Step Result: A menu opens.

   b) Select a filter type.
      The following table describes each filter type.

      Table 6: Data Filtering Types

Type	Description
NoFilter	Removes previously applied filtering.
Contains	Returns results that contain the value applied to the filter.
DoesNotContain	Returns results that do not contain the value applied to the filter.
StartsWith	Returns results that start with the value applied to the filter.
EndsWith	Returns results that end with the value applied to the filter
EqualTo	Returns results equal to the value applied to the filter.
NotEqualTo	Returns results that are not equal to the value applied to the filter.
Greater Than	Returns results that are greater than the value applied to the filter.
Less Than	Returns results that are less than the value applied to the filter.
GreaterThanOrEqualTo	Returns results that are greater than or equal to the value applied to the filter.
LessThanOrEqualTo	Returns results that are less than or equal to the value applied to the filter.
Between	Returns results that are between two values. Place a space between the two values.

Type	Description
NotBetween	Returns results that are not between two values. Place a space between the values.
IsEmpty	Returns results that are empty.
NotIsEmpty	Returns results that are not empty.
IsNull	Returns results that have no value.
NotIsNull	Returns results that have a value.

Note: Text filters are case sensitive. Date columns filter at the lowest level of granularity; higher levels of granularity return no filter results. The availability of filtering options is dependent on the type of data displayed in the column. For example, filtering options that can only apply to numeric data will not be available in columns that contain text data or a mix of text and numeric data.

Result: The list column is filtered according to the criteria. If desired, repeat the process to filter additional columns.

Group By

The **Group By** row lets you sort list items into groups based on column headers.

To use the **Group By** row, ensure **Options** > **Show Group By Row** is selected from the toolbar, and then drag a column header into the row. You may drag multiple columns to the row, but you may only drag one column into the row at a time.

To ungroup the list, right-click on the row and select **Cancel All Groupings**. To hide the **Group By** row, select **Options** > **Hide Group By Row**.

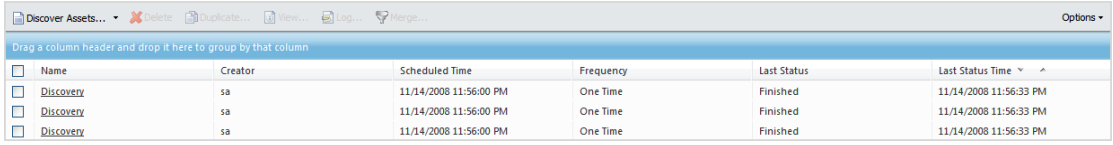


Figure 11: Group By Row

Expanding and Collapsing Structures

Certain structures in Lumension Endpoint Management and Security Suite are expandable and collapsible. Expand structures to view additional available information or options. Collapse them to conserve screen space.

Click available **Plus** icons (+), **Minus** icons (-), and **Rotating Chevron** icons (>) to expand or collapse a structure.

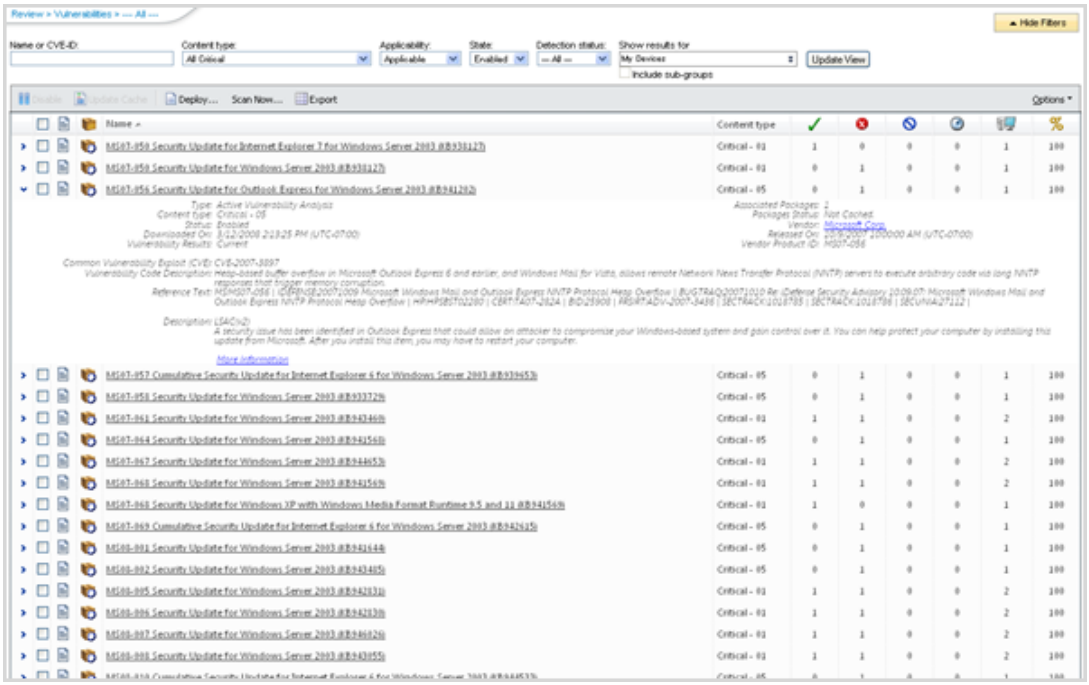


Figure 12: Expandable/Collapsable Structure Example

Advancing Through Pages

Lumension Endpoint Management and Security Suite features links to page through large lists.

Click the links to page through lists. The number of list items and the specific page you are viewing determines the number of pagination links.

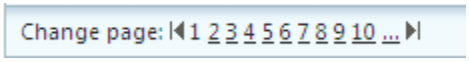


Figure 13: Pagination Feature

Lumension Endpoint Management and Security Suite also features a **Rows Per Page** drop-down list. From this list, you can select the number of items that populate a list.

Table 7: Pagination Feature Functions

Icon or Link	Title	Function
▶|	**Final Page Link**	Advances to the final page of list items.
|◀	**First Page Link**	Returns to the first page of list items.
...	**Next Ten/Previous Ten Pages Link**	Displays the next ten or previous ten page links available. Fewer page links will display if the remaining list items cannot populate ten pages.
4 5 6	**Pagination Links**	Advances or returns to the selected pagination link.

Each page also features a **Rows Per Page Drop-Down List**. This list modifies the number of list items displayed on a single page (25, 50, 100, 200, 500).

Help

Lumension Endpoint Management and Security Suite contains context-sensitive HTML (`.html`) help. Help provides product feature explanations, step-by-step procedures, and reference materials.

Accessing help differs according to context.

- From a page, select **Help** > **Help Topics**.
- From a dialog, click the **Question Mark** icon (**?**).

Accessing help displays information that is useful for your current context.

Exporting Data

On many system pages, you can export the listed data to a comma separated value file (`.csv`) available for use outside of Lumension Endpoint Management and Security Suite (Lumension EMSS). Use this exported data for management purposes (reporting, noting trends, and so on).

You can export data from a variety of Lumension EMSS pages.

Note: These instructions are intended for Microsoft Internet Explorer users. If you are using Mozilla Firefox, this procedure differs slightly.

Important: The Enhanced Security Configuration feature for Internet Explorer suppresses export functionality and must be disabled to export data successfully. Pop-up blockers in Internet Explorer or other supported browsers may also suppress export functionality and should be disabled.

1. Select a list page (or dialog) where you can export information.
2. If necessary, populate the page by defining filter criteria and clicking **Update View**.
3. Click **Export**.

   Step Result: The ***File Download*** dialog opens.

4. In the ***File Download*** dialog, select from one of the following options.

Option	Description
Open	Creates the file and opens it in your default (`.csv`) program.
Save	Creates the file and saves it to a specified local folder. The file is saved in a Microsoft Office Excel (`.csv`) format. The file is named *`Export.csv`*, with the exported file containing data based on list data.
Cancel	Cancels the export.

Note: All data results will export, not just the selected results.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Device Name	Hardware Class	Hardware Item											
2	\\TP-VAGENT	Architecture	x86											
3	\\TP-VAGENT	Batteries	Microsoft AC Adapter											
4	\\TP-VAGENT	BIOS	PTLTD - 6040000 PhoenixBIOS 4.0 Release 6.0 Date: 07/22/08											
5	\\TP-VAGENT	BIOS Asset Tag	No Asset Tag											
6	\\TP-VAGENT	Computer	ACPI x86-based PC											
7	\\TP-VAGENT	Computer	OS Serial Number = 55041-037-8318942-71732											
8	\\TP-VAGENT	Computer	Virtualization = VMWare											
9	\\TP-VAGENT	Disk drives	VMware Virtual disk SCSI Disk Device											
10	\\TP-VAGENT	Display adapters	VMware SVGA II											
11	\\TP-VAGENT	DVD/CD-ROM drives	NECVMWar VMware IDE CDR00 ATA Device											
12	\\TP-VAGENT	File Systems	C:\ Type:NTFS Free:0.961 GB Total:7.997 GB											
13	\\TP-VAGENT	Floppy disk drives	Floppy disk drive											
14	\\TP-VAGENT	Floppy drive controllers	Standard floppy disk controller											
15	\\TP-VAGENT	IDE ATA/ATAPI controllers	ATA Channel 0											
16	\\TP-VAGENT	IDE ATA/ATAPI controllers	Intel(R) 82371AB/EB PCI Bus Master IDE Controller											

Figure 14: Exported Data

The Home Page

The entry point to Lumension Endpoint Management and Security Suite (Lumension EMSS) is the ***Home*** page. From this page you can view the dashboard, which features draggable widgets that display information about Lumension EMSS and agent-managed endpoints.

Some widgets display general information about the system, others provide links to documentation, and still others summarize activity for Lumension EMSS modules you are licensed for.

Figure 15: The Home Page

The Lumension Endpoint Management and Security Suite Header

The product header appears at the top of all Lumension Endpoint Management and Security Suite Web site pages.

Figure 16: Header

This header contains links for information about various Lumension products. Clicking one of these links opens a new window that pertains to the applicable product.

The Navigation Menu

This menu appears on all Lumension Endpoint Management and Security Suite pages. Use this menu to navigate through the console.

This menu organizes product features based on functionality. When you select a menu item (or sub-menu item), a new page, dialog, wizard, or window opens. You can access all features of the system from this menu (that your access rights authorize).

Note: The menu items available change based on the installed Lumension Endpoint Management and Security Suite modules.

Figure 17: Navigation Menu

The navigation menu contains the several menus, which are organized based on functionality.

Table 8: Navigation Menus

Menu	Description
Home	Opens the ***Home*** page. This link contains no menu items.
Discover	Contains menu items related to running discovery scan jobs.
Review	Contains menu items related to reviewing security content and discovery scan jobs.
Manage	Contains menu items related to managing system features.
Reports	Contains menu items related to creating reports.
Tools	Contains menu items related to system administration.
Help	Contains menu items related to help systems.

Tip: When a menu item is selected, the navigation menu text is underlined to display its active state.

Most navigation menus contain items. The following table lists each menu item in the **Discover** menu and the actions that occur when they are selected.

Table 9: Discover Menu Items

Menu Item	Description
Assets...	The ***Discover Assets*** dialog.
Assets and Install Agents...	The ***Install Agents*** dialog.
Assets and Uninstall Agents...	The ***Uninstall Agents*** dialog.

The following table lists each menu item in the **Review** menu and the actions that occur when they are selected.

Table 10: Review Menu Items

Menu Item	Description
Asset Discovery Job Results	Opens the ***Job Results*** page, which is filtered to display discovery job results.
Agent Management Job Results	Opens the ***Job Results*** page, which is filtered to display agent management job results.

The following table lists each menu item in the **Manage** menu and the actions that occur when they are selected.

Table 11: Manage Menu Items

Menu Item	Description
Endpoints	Opens the ***Endpoints*** page.
Groups	Opens the ***Groups*** page.
Agent Policy Sets	Opens the ***Agent Policy Sets*** page.

The following table lists each menu item in the **Reports** menu and the actions that occur when they are selected.

Table 12: Reports Menu Items

Menu Item	Description
All Reports	Opens the ***All Reports*** page.
Configuration	Opens the ***All Reports*** page with configuration reports expanded.
Inventory	Opens the ***All Reports*** page with inventory reports expanded.
Policy and Compliance	Opens the ***All Reports*** page with policy and compliance reports expanded.

The following table lists each menu item in the **Tools** menu and the actions that occur when they are selected.

Table 13: Tools Menu Items

Menu Item	Description
Users and Roles	Opens the ***Users and Roles*** page.
Change My Password...	Opens the ***Change My Password*** dialog.
Download Agent Installer...	Opens the ***Download Agent Installer*** dialog opens over the currently selected page.
Wake on LAN	Opens the ***Wake on LAN*** page.
Launch Installation Manager...	Opens the ***Lumension Installation Manager*** in a new window.

Menu Item	Description
Subscription Updates	Opens the ***Subscription Updates*** page.
Directory Sync Schedule	Opens the ***Directory Sync Schedule*** page.
Email Notifications	Opens the ***Email Notifications*** page.
Options	Opens the ***Options*** page.

The following table lists each menu item in the **Help** menu and the actions that occur when they are selected.

Table 14: Help Menu Items

Menu Item	Description
Help Topics...	Opens the ***Help*** page.
Help Forums...	Opens the Lumension message boards.
Knowledge Base...	Opens the Lumension knowledge base.
New Users Start Here...	Opens the ***New Users Start Here*** page.
Technical Support	Opens the ***Technical Support*** page.
Product Licensing	Opens the ***Product Licensing*** page.
About...	Opens the ***About*** dialog.

Note: Any unavailable or absent menus, menu items, or sub-menu items are due to restricted access rights or unavailable modules. Contact your network administrator if you require access to unavailable features.

The Dashboard

The **dashboard** displays widgets depicting the activity on your protected network. Located on the ***Home*** page, the dashboard provides convenient information you can use to ensure your network protection is up to standard. Additionally, you can customize the dashboard to display the widgets most applicable to your network environment.

Widget graphs are generated based on the latest data and statistics available from endpoints, groups, module-specific data, and so on.

The following ***Dashboard*** widgets are available:

- *The Agent Module Installation Status Widget* on page 36
- *The Agent Status Widget* on page 37
- *The Discovery Scan Results: Agent Widget* on page 38
- *The Last Five Completed Scan Jobs Widget* on page 39
- *The Latest News Widget* on page 39
- *The Next Five Pending Scan Jobs Widget* on page 40
- *The Server Information Widget* on page 40

The Agent Module Installation Status Widget

This widget displays the installation and licensing stats of each agent module.

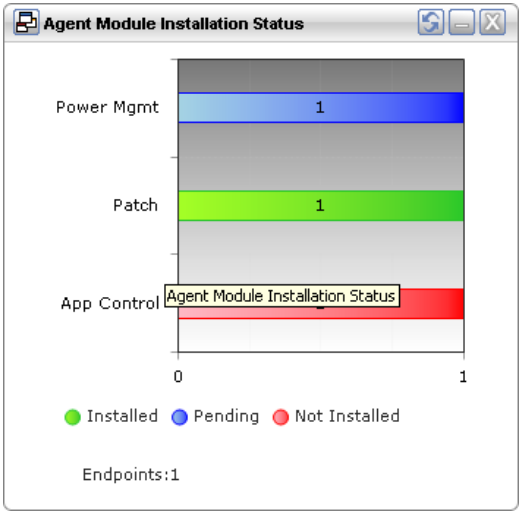


Figure 18: Agent Module Installation Status Widget

A graph bar displays for each installed module. The following table describes the widget graph(s).

Table 15: Graph Bar Color Descriptions

Bar Color	Description
Blue	The number of managed endpoints with the applicable module pending installation or uninstallation.
Green	The number of managed endpoints with the applicable module installed.
Red	The number of managed endpoints without the applicable module installed.

Tip: Click the graph to open the ***Endpoints*** page ***All*** tab.

Note: Endpoints with an agent version that does not support a module are not counted.

The Agent Status Widget

This widget displays all agents grouped by agent status.

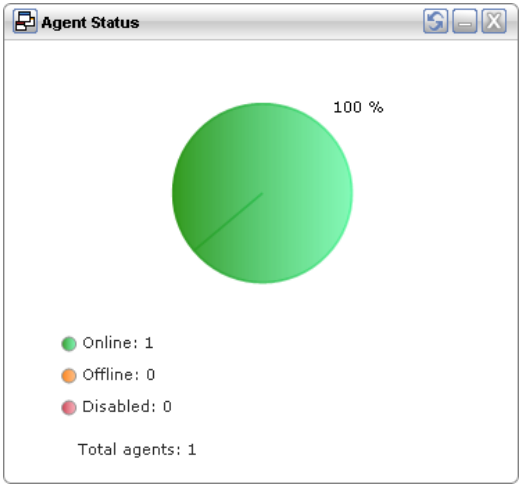


Figure 19: The Agent Status Widget

The following table describes the fields in the **Agent Status** widget.

Table 16: Agent Status Widget Fields

Field	Description
Online	The number of agents that are online.
Offline	The number of agents that are offline. **Note:** Offline status is determined by the amount of time since the agent last communicated as determined on the ***Options*** page.
Disabled	The number of agents that are disabled.
Total Agents	The total number of agents in your environment.
Tip: Clicking on the pie chart opens the ***Endpoints*** page ***All*** tab. The page is filtered to display all agents.	

The Discovery Scan Results: Agent Widget

This widget displays the number endpoints capable of hosting agents (agent-compatible endpoint) discovered in the latest discovery scan job. The endpoints discovered are classified in to two groups: endpoints with agents and endpoints without agents.

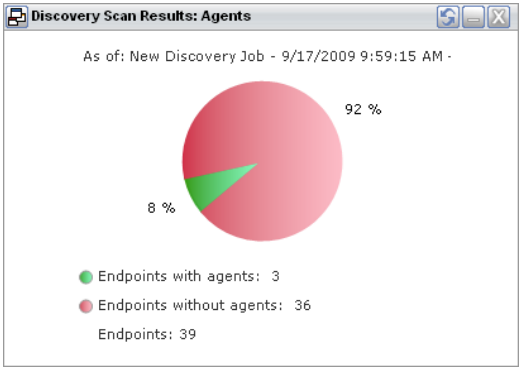

Discovery Scan Results: Agents
As of: New Discovery Job - 9/17/2009 9:59:15 AM -
92 %
8 %
Endpoints with agents: 3
Endpoints without agents: 36
Endpoints: 39

Figure 20: Discovery Scan Results Widget

The following table describes the **Discovery Scan Results: Agent** widget fields.

Table 17: Discovery Scan Results Widget Fields

Field	Description
As of	The name of the discovery scan job used to generate the widget graph and statistics. This job is the job most recently run.
Endpoints with agents	The number of agent-compatible endpoints discovered that have agents installed.
Endpoints without agents	The number of agent-compatible endpoints discovered that have no agents installed.
Endpoints	The total number of agent-compatible endpoints discovered.

Tip: Clicking the **Discovery Scan Results: Agent** widget opens the ***Results*** page for the most recently run discovery scan job.

The Last Five Completed Scan Jobs Widget

This widget contains information about the last five completed scan jobs. Each job name is a link to the associated ***Result*** page.

Figure 21: Last Five Completed Scan Jobs Widget

The following table describes each column in the **Last Five Completed Jobs** widget.

Table 18: Last Five Completed Scan Jobs Widget Columns

Column	Description
Name	The job name. The name is a link to the associated ***Results*** page.
Completed Date	The date and time the job completed on the server.
Status	The status of the completed job.

The Latest News Widget

This widget displays important announcements and other information regarding Lumension Endpoint Management and Security Suite.

Click a ***Latest News*** link to view additional details about an announcement in a new window.

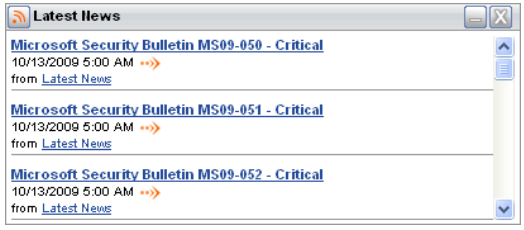


Figure 22: Latest News Widget

The Next Five Pending Scan Jobs Widget

This widget displays information about the next five pending discovery scan jobs. Each job name is a link to the ***Discovery Scan Jobs*** page ***Scheduled*** tab.

Figure 23: Next Five Pending Scan Jobs Widget

The following table describes the **Next Five Pending Scan Jobs** widget columns.

Table 19: Next Five Pending Scan Jobs Widget Columns

Column	Description
Name	The job name. Each name is a link to the ***Discovery Scan Jobs*** page ***Scheduled*** tab.
Scheduled Time	The date and time the job is scheduled to run on the server.

The Server Information Widget

This widget lists your serial number, number of licenses available, number of licenses in use, and information about current license usage and availability for Lumension Endpoint Management and Security Suite (Lumension EMSS).

Figure 24: Server Information Widget

The following table describes the fields in the **Server Information** widget.

Table 20: Server Information Widget Fields

Field Name	Description
Company	The company Lumension EMSS is registered to as defined during installation.
Serial number	Lumension EMSS license number (serial number) assigned to your server.
License replication	The subscription status between Lumension EMSS and the Global Subscription Server (GSS).
System replication	The system replication status between Lumension EMSS and the GSS.

The following table describes the **Product Licenses** table columns. A row appears for each purchased module.

Table 21: Product Licenses Table Columns

Column	Description
Product Module	The module for which you purchased licenses.

Column	Description
In Use	The number of module licenses in use.
Pending	The number of licenses pending use or pending removal. Licenses pending removal become available upon removal completion.
Available	The number of licenses available.

Note: A license expiration notice displays if all available licenses are expired.

Dashboard Setting and Behavior Icons

Setting and behavior icons are UI controls used to manage the dashboard. Click these icons to maximize, minimize, hide, and refresh the dashboard and widgets.

The following table describes each icon action.

Table 22: Widget Setting and Behavior Icons

Icon	Action
	Opens the ***Dashboard Settings*** dialog.
	Opens the dashboard in print preview mode.
	Collapses the associated widget.
	Expands the associated collapsed widget.
	Hides the associated widget.
	Refreshes the associated widget (or the entire dashboard).

Note: Not all widgets contain **Refresh** icons.

Previewing and Printing the Dashboard

When viewing the dashboard, you can reformat it for printing purposes. This print preview omits the Web site's header and footer, reorganizing the dashboard to display only the selected widgets, making it ideal for printing.

View the print preview from the ***Home*** page.

1. Select **Home** from the navigation menu.
2. Click the **Print** icon.

   Step Result: The dashboard print preview opens in a new Web browser window.

3. If desired, use your Web browser controls to print the dashboard.

Editing the Dashboard

Lumension Endpoint Management and Security Suite lets you define how dashboard widgets are arranged and prioritized. Edit the dashboard to display only the widgets that are most useful when managing your network environment.

Edit the dashboard from the ***Dashboard Settings*** dialog.

1. From the navigation menu, select **Home**.
2. Click the **Settings** icon.

   Step Result: The ***Dashboard Settings*** dialog opens.

Dashboard Settings
Agent Status
This chart displays all agents grouped by status.
Discovery Scan Results
This chart displays the total number of endpoints discovered in the last-run Discovery Scan job and identifies how many had an agent installed.
Endpoint Patch Status
This chart displays all endpoints with applicable critical vulnerabilities grouped by age and the patch status within each category.
Incomplete Deployments
This chart displays all deployments whose start dates have elapsed that have a status of 'not started' or 'in progress'.
Last 5 Completed Scan Jobs
This chart displays a list of the last 5 completed jobs and their status.
Latest News
This displays a feed of the latest security bulletins and product information.
Descriptions:
Columns:
OK
Cancel

Figure 25: Dashboard Settings Dialog

3. Choose which widgets you want to display on the dashboard.
   - Select the check box associated with the applicable widget to display it.
   - Clear the check box associated with the applicable widget to hide it.
4. Prioritize the widgets in the desired order.
   - Click the applicable **Increase Priority** icon to increase a widget priority.
   - Click the applicable **Decrease Priority** icon to decrease a widget priority.

   Highly prioritized widgets appear in the dashboard upper-left corner, while lowly prioritized widgets appear in the lower-right.
5. Display or hide widget descriptions.
   - Click the **Display Descriptions** icon to display descriptions.
   - Click the **Hide Descriptions** icon to hide description.

6. Choose a widget layout.
   - Click the **Two Column** icon to make widgets appear in two columns.
   - Click the **Three Column** icon to make widgets appear in three columns.
7. Click **OK**.

The System Alert Pane

The ***System Alert*** pane is an expandable window that provides information about changing conditions on your Lumension Endpoint Management and Security Suite server. The System Alert pane displays information about required actions with links to related help topics to assist you with tasks.

The System Alert pane displays on the left side of the dashboard and shows the number of alerts that require your attention. You can drag the right edge of the pane to resize the System Alert pane within the dashboard.

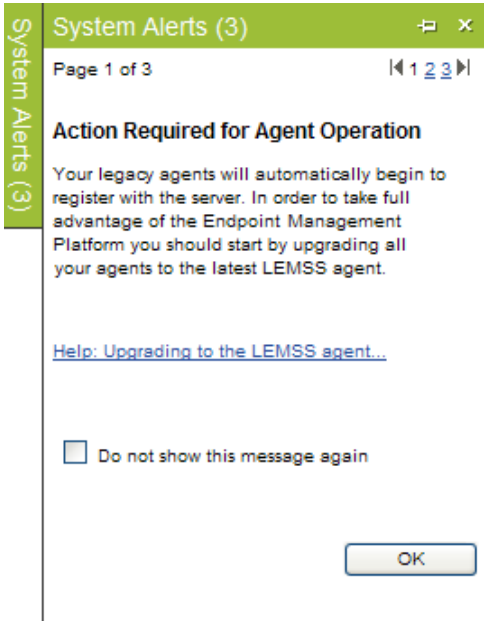

System Alerts (3)
System Alerts (3)
Page 1 of 3
1 2 3
Action Required for Agent Operation
Your legacy agents will automatically begin to register with the server. In order to take full advantage of the Endpoint Management Platform you should start by upgrading all your agents to the latest LEMSS agent.
Help: Upgrading to the LEMSS agent...
Do not show this message again
OK

Figure 26: The System Alert Pane

The following functions can be found in the ***System Alert*** pane.

Table 23: Options Menu Items

Option	Description
Pin (icon)	Docks the System Alert pane open. Clicking this icon again will collapse the System Alert pane.
Pagination Links	Allows you to navigate between alerts. For more information, see *Advancing Through Pages* on page 30.
Action Link	Opens the appropriate application page, external Web page, or context-sensitive help topic, depending on the action specified in the alert.

Option	Description
Don't show this again (check box)	Collapses the ***System Alert*** pane. The alert shown in the ***System Alert*** pane when this check box is selected will no longer be shown.
OK (button)	Collapses the ***System Alert*** pane.

Note: Dismissing a notification only dismisses the notification for the user you are currently logged in as. The notification still displays for other users. Additionally, the system automatically dismisses alerts as you complete their related actions, regardless of whether you manually dismiss those alert.

License Expiration

The Lumension Endpoint Management and Security Suite and its modules are licensed for a prepaid period. When you purchase a module, you purchase a license for the module itself and the module function for a set number of agents. After the license period expires, you must renew your licenses.

The following table describes the different licensing expiration scenarios and the events that follow.

Note: When a subscription expires, the applicable module history and configuration is retained so no work is lost when the module is renewed.

Table 24: License Expiration Scenario and Events

Scenario	Event(s)
Lumension EMSS Module Expiration	• All menu items and features related to the module are disabled. • Functionality for all agent components for the module is partially disabled (function disabled varies by module). • Agent components for the module cannot be installed on agents that do not already have the module installed. • *`Module`* `Installed` statuses for affected endpoints change from `Installed` to `Expired` on the ***Endpoints*** page. • The **Available** license count for the module changes to `0` in the **Server Information** widget.
Lumension EMSS Module Agent Expiration	• Functionality for all agent components for the module (in the license block) is partially disabled (functions disabled varies by module). • Agent components for the module cannot be installed on agents that do not already have the module installed. • *`Module`* `Installed` statuses for affected endpoints change from `Installed` to `Expired` on the ***Endpoints*** page. • The **Available** license count for the module changes to `0` in the **Server Information** widget.

To reactivate your licenses following renewal, select the ***Subscription Updates*** page and click **Update Now**. The license verification process begins and connects to the Global Subscription Server, retrieving updated license information. The page refreshes following update completion, and all previous module functionality is restored.

Note: For more information about renewing or adding licenses, contact *Lumension Sales Support* (*patchlink.sales@lumension.com*).

Chapter 4

Managing Wakepoints

In this chapter:

- About Wakepoints
- Configuring Wakepoints
- Working with Wakepoints

Wake on LAN uses *wakepoints* to send wake requests to network endpoints. Before you can begin waking endpoints, you must define wakepoints.

About Wakepoints

To power-on network endpoints, Wake on LAN requires you to designate wakepoints. Wakepoints are endpoints that relay server wake requests to other network endpoints, thus waking them without a physical presence.

Wake on LAN sends wake requests to wakepoints using the user datagram protocol (UDP). Wakepoints then relay the request to agent-managed endpoints.

Wakepoints disperse relayed wake requests through routers and firewalls. This avoids direct broadcast and multicast, which can cause excessive network bandwidth consumption. Additionally, routers may block UDP packets sent by other subnets. Successful wake request outcomes are contingent upon firewall and router settings.

Each segment of your network (VLAN) requires at least one wakepoint. However, Lumension recommends assigning multiple wakepoints to each network segment. This practice ensures there are multiple distribution points within a network segment, therefore ensuring endpoints receive wake requests in the event that a router blocks a wake request.

Configuring Wakepoints

You should select wakepoints based on a managed endpoint's online status, installed agent version, and operating system.

Wakepoints must meet the following requirements:

- Wakepoints must be Windows-based.
- Wakepoints must have Lumension EMSS Agent 7.1.0.4 or later installed.

Additionally, Lumension recommends that endpoints designated as wakepoints should always be powered on.

Important: You must select at least one Wakepoint within a network segment (VLAN).

Working with Wakepoints

Manage wakepoints from the ***Wake on LAN*** page ***WOL Configuration*** tab.

You can perform the following tasks related to wakepoint management:

- *Adding a Wakepoint* on page 48
- *Removing a Wakepoint* on page 49

Adding a Wakepoint

The ***Assigned Wakepoints*** list itemizes the currently selected wakepoints and provides you with options to add additional ones.

1. Select **Tools** > **Wake on LAN**.

   Step Result: The page opens to the ***WOL Configuration*** tab.

2. From the **Wakepoint Configuration** section, add wakepoint(s).
   Wakepoints are managed endpoints with the Wakepoint module installed. Wakepoints relay wake requests from Lumension Endpoint Management and Security Suite to managed endpoints within your network.
   a) Under assigned wakepoints click **Add**.

      Step Result: The ***Add Wakepoints*** dialog opens.

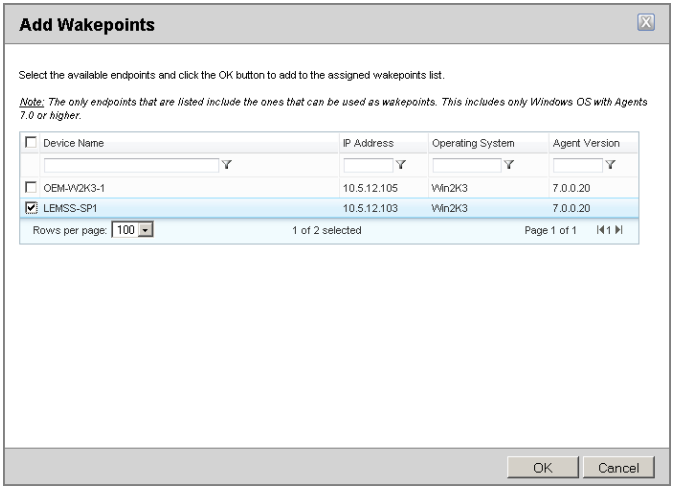


Figure 27: Add Wakepoints Dialog

   b) Select the endpoints you want to function as wakepoints.
   c) Click **OK**.

      Step Result: The selected endpoints are added to the ***Assigned Wakepoints*** list.

   d) Click **OK**.

      Step Result: The ***Add Wakepoints*** dialog closes.

3. From the **Wakepoint Configuration** section, edit the **Wake on LAN Port** (0-65535) if applicable.

   This port is the port wakepoints use to relay wake requests to endpoints. When defining the **Wake on LAN Port**, remember the following:

   - Under most network conditions, this field does not require editing.
   - Wake on LAN uses **9** by default.
   - Lumension recommends using **0**, **7**, or **9**.

4. Click **Save**.

   Step Result: The changes to your configuration are saved.

Result: The defined wakepoint(s) and port number are saved. The saved settings will be used during the next schedule wake request broadcast.

Removing a Wakepoint

The ***Assigned Wakepoints*** list itemizes the currently selected wakepoints and provides options to remove wakepoints you no longer need.

1. Select **Tools** > **Wake on LAN**.

   Step Result: The page opens to the ***WOL Configuration*** tab.

2. Within the **Wakepoint Configuration** section, remove the wakepoint(s) you no longer need.
   a) Select the desired wakepoint(s) in the ***Assigned wakepoints*** list.
   b) Click **Remove**.

   Step Result: A confirmation dialog displays.

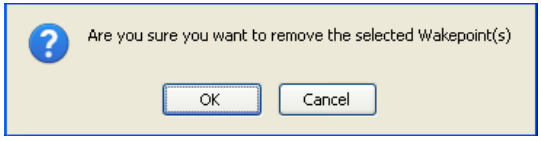


Figure 28: Remove Wakepoint Confirmation Dialog

   c) Click **OK**.
3. Click **Save**.

   Step Result: The changes to your configuration are saved.

Result: The selected endpoint(s) are no longer wakepoint(s).

> **Note:** Removing a wakepoint only prevents an endpoint from continuing to function as a wakepoint. It does not remove the Lumension Endpoint Management and Security Suite agent from the selected endpoint.

Chapter 5

Waking Endpoints

In this chapter:

- Wake on LAN Scheduling Methods
- The Wake on LAN Page
- The WOL Configuration Tab
- The Endpoint Wake Times Tab
- Working with Wake on LAN

After installing Wake on LAN (WOL) and wakepoints, you can begin waking endpoints without a physical presence. You can manage endpoint wake times, configurations, and logging functions.

Important: You can only wake agent-managed endpoints.

Use the WOL module to boot agent-managed endpoints using network communication. Send wake requests to a managed endpoint, thus booting the endpoint. Using this module in conjunction with other Lumension Endpoint Management and Security Suite modules facilitates security administration after business hours.

Note: WOL is a send-only model. Therefore, managed endpoints do not indicate wake request outcomes. To determine the outcome of wake requests, view an agent's status in Lumension EMSS (`online` or `offline`).

Wake on LAN Scheduling Methods

When usingWake on LAN, you can send endpoint wake requests using different scheduling methods: hours of operation (HOP), custom daily wake times, and wake now.

Wake on LAN includes the following methods to schedule wake requests:

Wake during Hours of Operation	This method schedules wake requests based on endpoint HOP settings, which are defined in agent policy set(s). HOP settings define the days and times an endpoint's agent is operational. Within Lumension Endpoint Management and Security Suite, you can create many agent policy sets. Therefore, the agent policy set applied to a given group governs its agents' behavior. When multiple agent policy sets are applied to a group, HOP are and accumulation of all applicable agent policy sets' defined HOP. For additional information about agent policy sets and HOP, refer to the *Lumension Endpoint Management and Security Suite 7.1 User Guide* (*http://portal.lumension.com*). **Remember:** Agent hours of operation are based on the host endpoint's local time. **Note:** **Wake during Hours of Operation** wake request are only available in Lumension Endpoint Management and Security Suite environments with the Patch and Remediation module installed.
Group Wakeup Times	This method schedules wake requests based on a time you assign to an endpoint group. Wake requests are sent based on the server local time.
Wake Now	This method schedules a wake request for a selected endpoint immediately.

Note: You can use multiple schedule methods to wake endpoints. Methods can operate in conjunction without conflict because Wake on LAN uses the combined information from HOP and group wakeup times.

The Wake on LAN Page

Use this page to define wakepoints and wake times for managed endpoints.

The ***Wake on LAN*** page is added to Lumension Endpoint Management and Security Suite following installation of the Wake on LAN module.

The ***Wake on LAN*** page contains the following tabs:

- *The WOL Configuration Tab* on page 54
- *The Endpoint Wake Times Tab* on page 56

Viewing the Wake on LAN Page

From the ***Wake on LAN*** page, you can assign wakepoints or schedule wake requests.

1. Select **Tools** > **Wake on LAN**.

   Step Result: The page opens to the ***WOL Configuration*** tab.

2. Complete one of the tasks listed in *Working with Wake on LAN* on page 58.

Result: The Wake on LAN page opens.

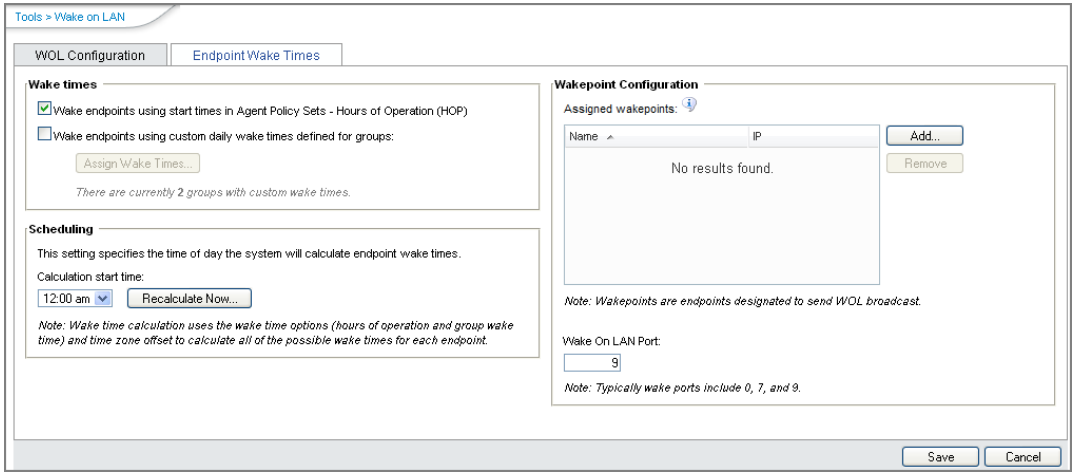

Tools > Wake on LAN
WOL Configuration
Endpoint Wake Times
Wake times
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)
Wake endpoints using custom daily wake times defined for groups:
Assign Wake Times...
There are currently 2 groups with custom wake times.
Scheduling
This setting specifies the time of day the system will calculate endpoint wake times.
Calculation start time:
12:00 am
Recalculate Now...
Note: Wake time calculation uses the wake time options (hours of operation and group wake time) and time zone offset to calculate all of the possible wake times for each endpoint.
Wakepoint Configuration
Assigned wakepoints:
Name
IP
No results found.
Add...
Remove
Note: Wakepoints are endpoints designated to send WOL broadcast.
Wake On LAN Port:
9
Note: Typically wake ports include 0, 7, and 9.
Save
Cancel

Figure 29: Wake on LAN

The WOL Configuration Tab

The ***WOL Configuration*** tab contains controls for configuring wake requests or wakepoints.

When you open the Lumension Endpoint Management and Security Suite (Lumension EMSS) Web console and select the ***Wake on LAN*** page, the ***WOL Configuration*** tab displays.

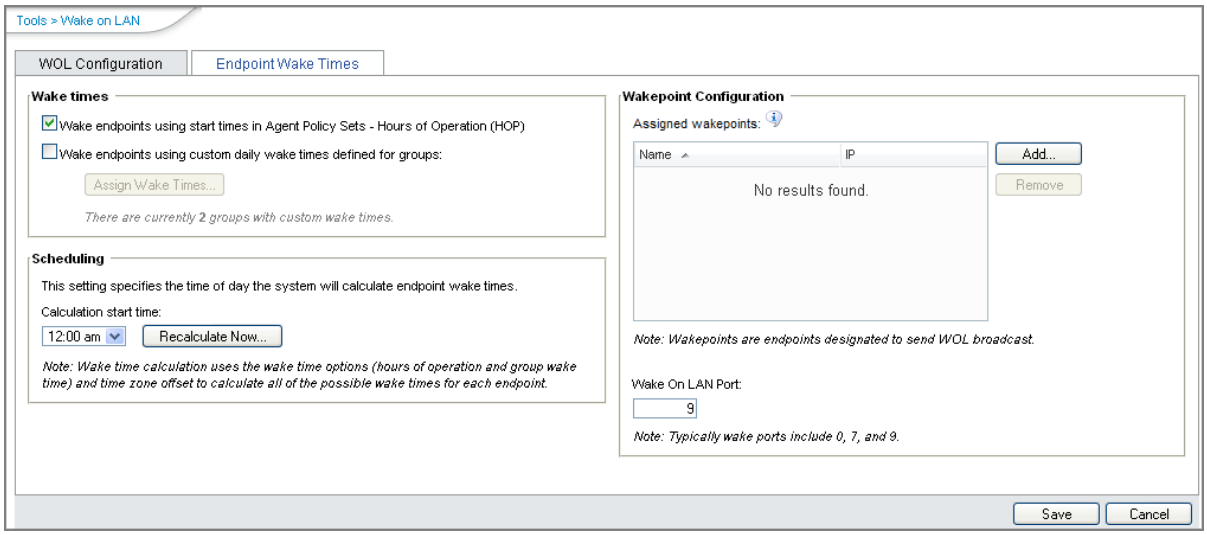

Tools > Wake on LAN
WOL Configuration
Endpoint Wake Times
Wake times
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)
Wake endpoints using custom daily wake times defined for groups:
Assign Wake Times...
There are currently 2 groups with custom wake times.
Scheduling
This setting specifies the time of day the system will calculate endpoint wake times.
Calculation start time:
12:00 am
Recalculate Now...
Note: Wake time calculation uses the wake time options (hours of operation and group wake time) and time zone offset to calculate all of the possible wake times for each endpoint.
Wakepoint Configuration
Assigned wakepoints:
Name
IP
No results found.
Add...
Remove
Note: Wakepoints are endpoints designated to send WOL broadcast.
Wake On LAN Port:
9
Note: Typically wake ports include 0, 7, and 9.
Save
Cancel

Figure 30: The WOL Configuration Tab

Wake Times

These options define the scheduling methods used to determine wake times.

The following table describes the **Wake times** options.

Table 25: Wake Times

Option	Description
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP) (check box)	Enables the wake time calculation to use hours of operation (HOP) to calculate possible wake times for endpoints that have HOP defined. **Note:** **Wake during Hours of Operation** wake request are only available in Lumension Endpoint Management and Security Suite environments with the Patch and Remediation module installed.
Wake endpoints using custom daily wake times defined for groups (check box)	Enables the wake time calculation to use the custom wake times for groups to calculate possible wake times.

Option	Description
Assign Wake Times (button)	Opens the ***Define Daily Wake Times*** dialog. For additional information, refer to *Scheduling Wake Requests by Custom Daily Times* on page 62.

Scheduling

Use these options to define the time that Wake on LAN calculates endpoint wake times.

The following table describes the **Scheduling** options.

Table 26: Scheduling

Option	Description
Calculation start time (list)	Defines the time used to calculate endpoint wake times. Times are available in 30 minute increments.
Recalculate Now	Calculates endpoint wake times immediately. For additional information, refer to *Calculating Endpoint Wake Times* on page 61. **Note:** The default time is **12:00 am** server time.

For additional information about scheduling options, refer to *Wake on LAN Scheduling Methods* on page 52.

Wakepoint Configuration

Use these controls to define wakepoints, which are the endpoints Wake on LAN uses to relay wake requests to network endpoints.

The following table describes the **Assigned wakepoints** list, which displays in **Wakepoint Configuration** options. This list itemizes defined wakepoints.

Table 27: Assigned Wakepoints

Column	Description
Name	The name of the assigned wakepoint.
IP	The IP address of the assigned wakepoint.

The following table describes the buttons used to edit the **Assigned wakepoints** list.

Table 28: Assigned Wakepoint Buttons

Button	Description
Add	Adds a wakepoint to the **Assigned Wakepoints** list. For additional information, refer to *Adding a Wakepoint* on page 48.
Remove	Removes a selected wakepoint from the **Assigned Wakepoints**. For additional information, refer to *Removing a Wakepoint* on page 49.

The following table describes the remaining **Wakepoint Configuration** option.

Option	Description
Wake on LAN Port (field)	Defines the port that wakepoints use to communicate with Wake on LAN. For additional information, refer to *Adding a Wakepoint* on page 48.

The Endpoint Wake Times Tab

The ***Endpoint Wake Times*** tab lists endpoints for which wake times have been defined. From this tab, you can also wake endpoints immediately.

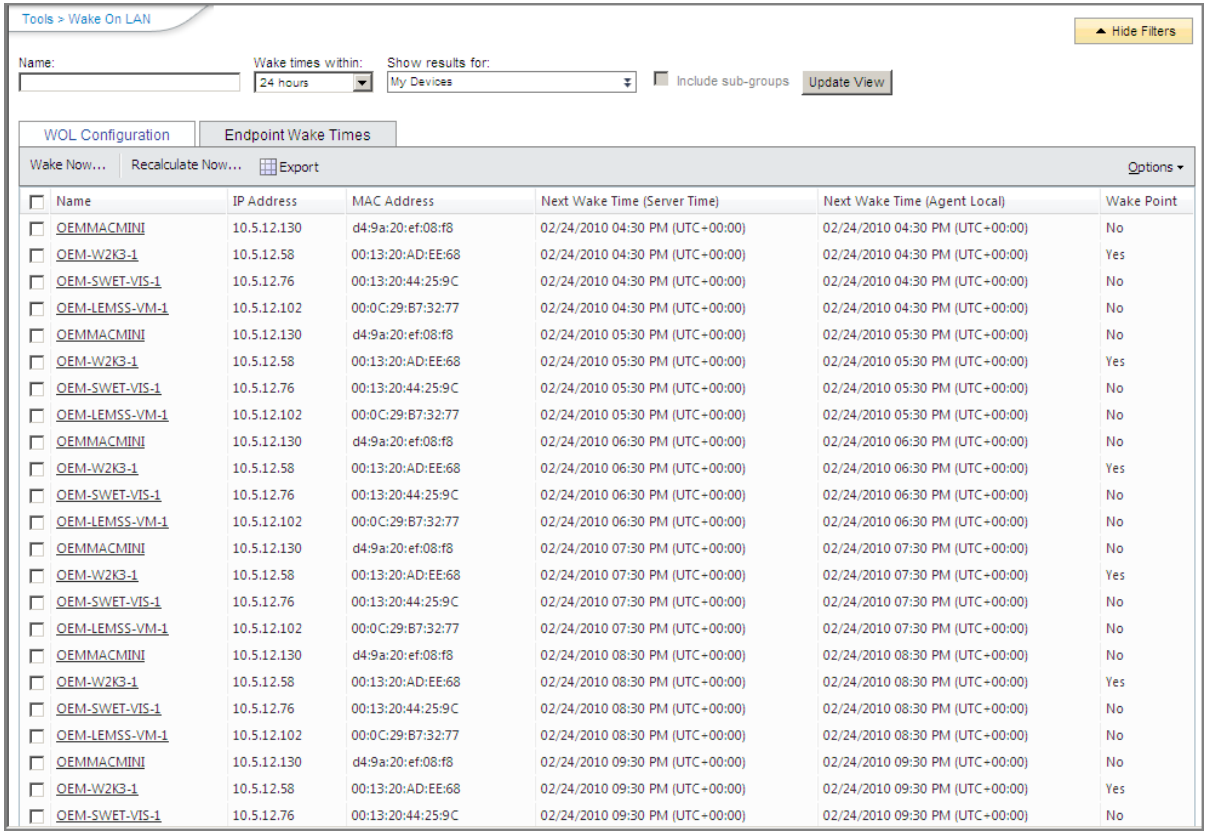


Figure 31: Endpoint Wake Times Tab

The Endpoint Wake Times Tab Toolbar

This toolbar contains buttons used to initiate Wake on LAN features.

The following table describes each toolbar button's function.

Table 29: Endpoint Wake Times Tab Toolbar

Button	Description
Wake Now...	Wakes the endpoints selected from the ***Endpoint Wake Times*** tab list. For additional information, refer to *Wake Endpoints from the Endpoint Wake Times Tab* on page 64.
Recalculate Now...	Recalculates the wake times for the endpoints selected from the ***Endpoint Wake Times*** tab list. For additional information, refer to *Calculating Endpoint Wake Times* on page 61.
Export	Exports the page data to a comma separated value (`.csv`) file. For additional information, refer to *Exporting Data* on page 31. **Important:** The Enhanced Security Configuration feature for Internet Explorer suppresses export functionality and must be disabled to export data successfully. Pop-up blockers in Internet Explorer or other supported browsers may also suppress export functionality and should be disabled.
Options (menu)	Opens the **Options** menu. For additional information, refer to *The Options Menu* on page 26.

The Endpoint Wake Times Tab List

This list itemizes all network endpoints scheduled to receive wake requests. This list also features additional information about endpoints and their next wake time.

The following table describes each list column.

Table 30: Endpoint Wake Times Tab List

Column	Description
Name	Indicates the endpoint name.
IP Address	Indicates the endpoint IP Address.
MAC Address	Indicates the endpoint MAC address.
Next Wake Time (Server)	Indicates the next time the endpoint will be woken based on server settings.
Next Wake Time (Agent Local)	Indicates the next time the endpoint will be woken based on endpoint settings.
Wake Point	Indicates if the endpoint is a wakepoint.

Working with Wake on LAN

After defining wakepoints, you can begin waking endpoints remotely.

You can perform the following tasks related to waking endpoints.

- *Scheduling Wake Requests by Hours of Operation* on page 58
- *Defining Hours of Operation for Endpoints* on page 59
- *How Endpoint Wake Times are Calculated* on page 61
- *Calculating Endpoint Wake Times* on page 61
- *Scheduling Wake Requests by Custom Daily Times* on page 62
- *Wake Endpoints from the Endpoint Wake Times Tab* on page 64
- *Wake Endpoints from the Manage Endpoints Page* on page 65

Scheduling Wake Requests by Hours of Operation

You can schedule wake request broadcasts for endpoints using hours of operation settings, which are defined within agent policy sets.

Prerequisites:

Ensure hours of operation for the applicable agent policy sets are defined. For additional information, refer to *Defining Hours of Operation for Endpoints* on page 59.

Note: **Wake during Hours of Operation** wake request are only available in Lumension Endpoint Management and Security Suite environments with the Patch and Remediation module installed.

1. Select **Tools** > **Wake on LAN**.

   Step Result: The page opens to the ***WOL Configuration*** tab.

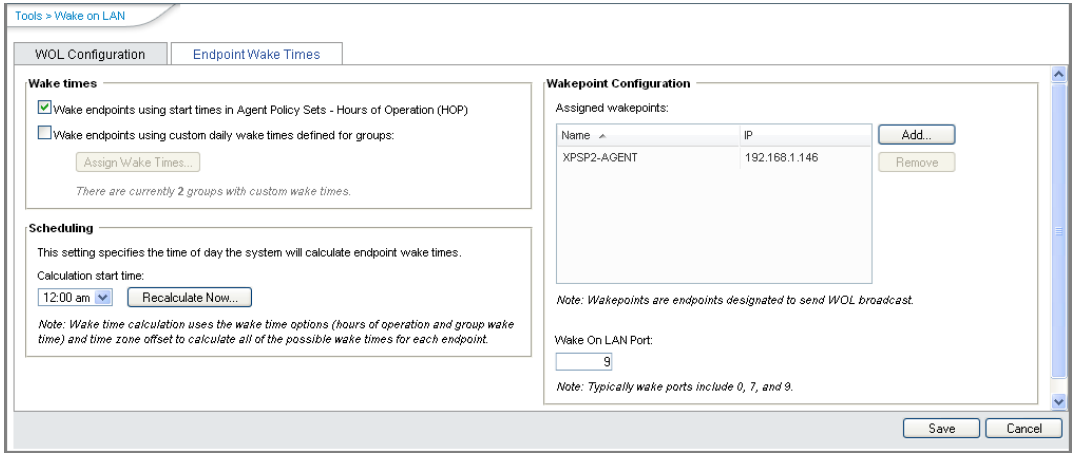

Tools > Wake on LAN
WOL Configuration
Endpoint Wake Times
Wake times
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)
Wake endpoints using custom daily wake times defined for groups:
Assign Wake Times...
There are currently 2 groups with custom wake times.
Scheduling
This setting specifies the time of day the system will calculate endpoint wake times.
Calculation start time:
12:00 am
Recalculate Now...
Note: Wake time calculation uses the wake time options (hours of operation and group wake time) and time zone offset to calculate all of the possible wake times for each endpoint.
Wakepoint Configuration
Assigned wakepoints:
Name
IP
XPSP2-AGENT
192.168.1.146
Add...
Remove
Note: Wakepoints are endpoints designated to send WOL broadcast.
Wake On LAN Port:
9
Note: Typically wake ports include 0, 7, and 9.
Save
Cancel

Figure 32: Wake on LAN Configuration Tab

2. Select the **Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)** check box.

3. Click **Save**.

Result: The endpoints are configured to wake up according to the assigned hours of operation.

> **Note:** Successful wake request outcomes are contingent upon firewall and router settings. Firewall and routers must be configured to permit packet broadcasts. Refer to your router's user manual for more information on how to configure firewall settings.

After Completing This Task:

Complete *Calculating Endpoint Wake Times* on page 61.

Defining Hours of Operation for Endpoints

When scheduling wake times based on agent hours of operation (HOP), you must define these hours within agent policy sets prior to using Wake on LAN. HOP determines when an agent is active on its host endpoint. When used in conjunction with Wake on LAN, HOP also determines when the host endpoint is powered on.

Edit agent hours of operation when creating or editing an agent policy set.

> **Note:** **Wake during Hours of Operation** wake request are only available in Lumension Endpoint Management and Security Suite environments with the Patch and Remediation module installed.

1. Select **Manage** > **Agent Policy Sets**.
2. Perform one of the following procedures based on your context.

Context	Procedure
If you are creating an agent policy set:	Click **Create**.
If you are editing an agent policy set:	Click the edit icon associated with the policy set containing the logging level setting you want to edit.

Step Result: Either the ***Create Agent Policy Set*** or the ***Edit a Policy Set*** dialog opens.

3. Perform one of the following procedures based on your context.

Context	Procedure
If you are creating an agent policy set:	Click the **Define** button besides to the **Hours of Operation** field.

Context	Procedure
If you are editing an agent policy set:	Click the **Modify** button besides to the **Hours of Operation** field.

Step Result: The ***Edit Agent Hours of Operation*** dialog opens.

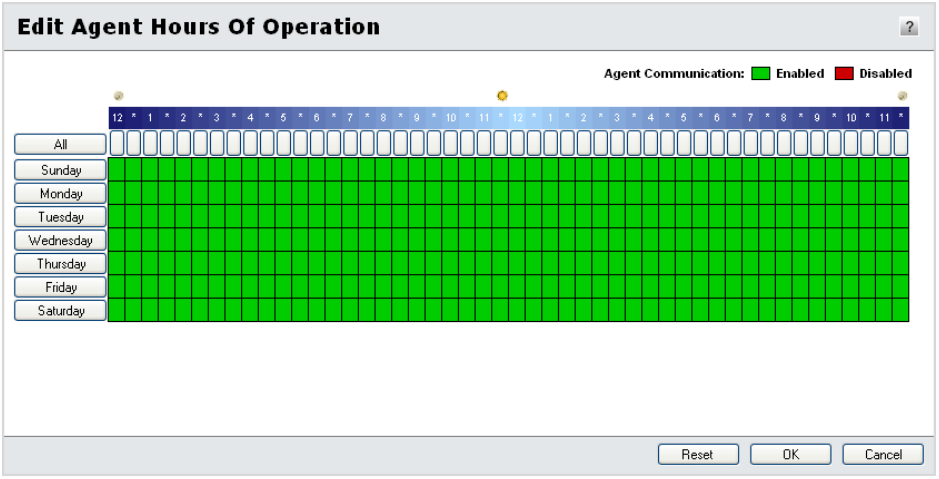


Figure 33: Edit Agent Hours of Operation Dialog

4. Click time units to define agent hours of operation.

   Green units indicate days and times of enablement, while red units indicate days and times of disablement.

   - Click **All** to toggle all ***Time*** units on or off.
   - Click a ***Day*** button to toggle time units for a day on or off.
   - Click ***Time*** units to toggle individual units on or off.

5. Click **OK**.
6. Finish any desired edits in the dialog and click **Save**.

Note: Changes made to the **Hours of Operation** schedule will not be saved until you have clicked **Save** in the ***Agent Policy Set*** dialog.

Result: Your edits are saved. These edits take effect the next time Lumension Endpoint Management and Security Suite and the applicable agents communicate.

How Endpoint Wake Times are Calculated

Wake on LAN boots endpoints remotely after calculating wake times on a daily basis. You can select the daily time when this calculation occurs. This calculation checks for edits to agent hours of operation or custom daily wake time changes.

Based upon the respective settings on the ***WOL Configuration*** tab, wake times calculation takes hours of operation and group wake times and applies a time zone offset to determine the actual wake time for each endpoint.

Note: The default value of the **Calculation Start Time** option is 12:00 am server time.

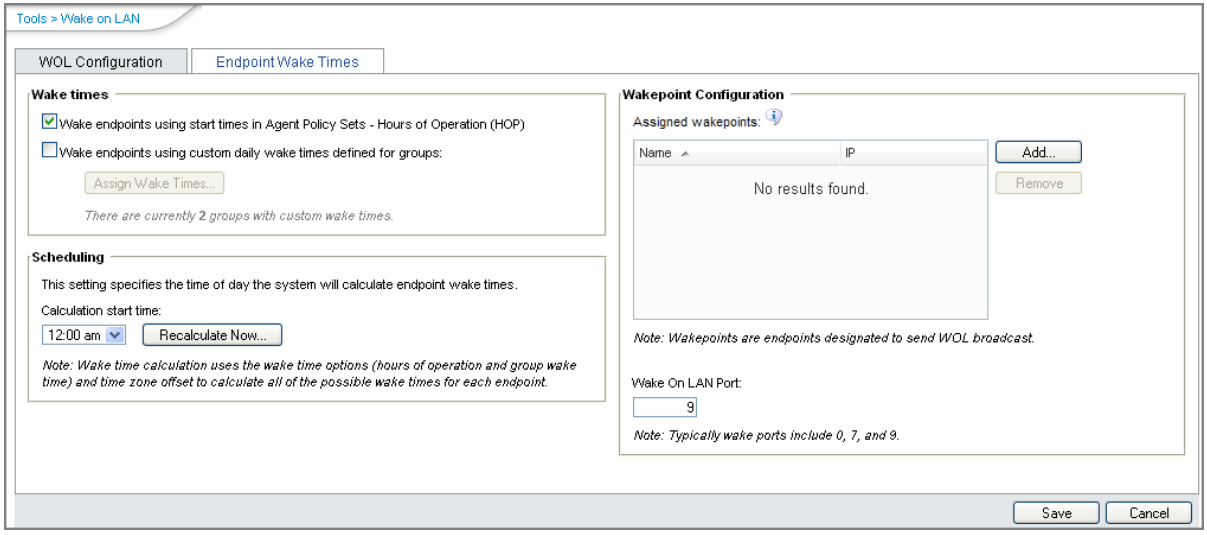

Tools > Wake on LAN
WOL Configuration
Endpoint Wake Times
Wake times
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)
Wake endpoints using custom daily wake times defined for groups:
Assign Wake Times...
There are currently 2 groups with custom wake times.
Scheduling
This setting specifies the time of day the system will calculate endpoint wake times.
Calculation start time:
12:00 am
Recalculate Now...
Note: Wake time calculation uses the wake time options (hours of operation and group wake time) and time zone offset to calculate all of the possible wake times for each endpoint.
Wakepoint Configuration
Assigned wakepoints:
Name
IP
No results found.
Add...
Remove
Note: Wakepoints are endpoints designated to send WOL broadcast.
Wake On LAN Port:
9
Note: Typically wake ports include 0, 7, and 9.
Save
Cancel

Figure 34: WOL Configuration Tab

Calculating Endpoint Wake Times

Following hours of operation edits, immediately recalculate wake times. This ensures that endpoints are woken at their scheduled times.

Note: Wake times calculation may become CPU intensive with increasing numbers of endpoints. Recalculating immediately offers the ability to choose the recalculation time so that you can select the ideal time when the server is not busy.

1. Select **Tools** > **Wake on LAN**.

   Step Result: The page opens to the ***WOL Configuration*** tab.

2. Select one of the following tabs to access the **Recalculate Now** button.

Tab	Description
WOL Configuration	Contains controls for configuring wake requests or wakepoints.

Tab	Description
Endpoint Wake Times	Contains controls and a list of endpoints for which times have need defined.

3. Click **Recalculate Now...**.

   Step Result: The ***Recalculate Now*** dialog opens.

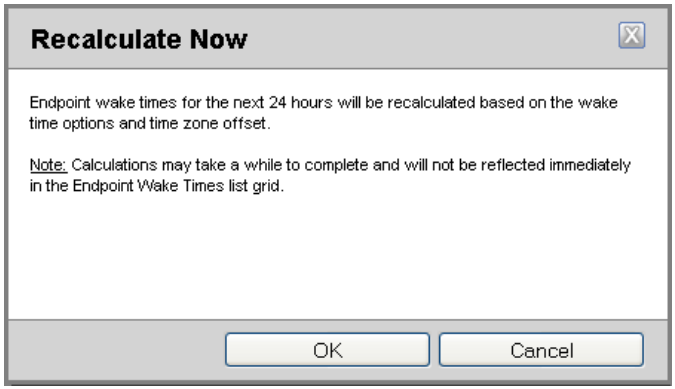

Recalculate Now
Endpoint wake times for the next 24 hours will be recalculated based on the wake time options and time zone offset.
Note: Calculations may take a while to complete and will not be reflected immediately in the Endpoint Wake Times list grid.
OK
Cancel

Figure 35: Recalculate Now Dialog

4. Click **OK** to confirm the calculation action.

Result: Wake on LAN recalculates endpoint wake times.

Scheduling Wake Requests by Custom Daily Times

You can configure Wake on LAN (WOL) to wake endpoint groups at a specific time each day.

1. Select **Tools** > **Wake on LAN**.

   Step Result: The page opens to the ***WOL Configuration*** tab.

2. Ensure the **Wake endpoints using custom daily wake times defined for groups** check box is selected.

   Step Result: The **Assign Wake Times...** button becomes available.

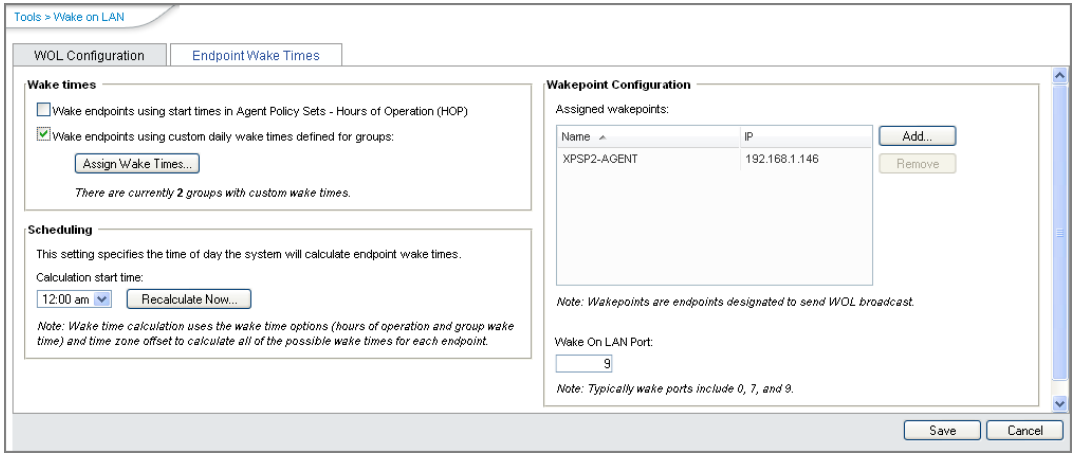

Tools > Wake on LAN
WOL Configuration
Endpoint Wake Times
Wake times
Wake endpoints using start times in Agent Policy Sets - Hours of Operation (HOP)
Wake endpoints using custom daily wake times defined for groups:
Assign Wake Times...
There are currently 2 groups with custom wake times.
Scheduling
This setting specifies the time of day the system will calculate endpoint wake times.
Calculation start time:
12:00 am
Recalculate Now...
Note: Wake time calculation uses the wake time options (hours of operation and group wake time) and time zone offset to calculate all of the possible wake times for each endpoint.
Wakepoint Configuration
Assigned wakepoints:
Name
IP
XPSP2-AGENT
192.168.1.146
Add...
Remove
Note: Wakepoints are endpoints designated to send WOL broadcast.
Wake On LAN Port:
9
Note: Typically wake ports include 0, 7, and 9.
Save
Cancel

Figure 36: Wake on LAN Configuration Tab

3. Click **Assign Wake Times...**.

   Step Result: The ***Assign Daily Group Wake Times*** dialog opens.

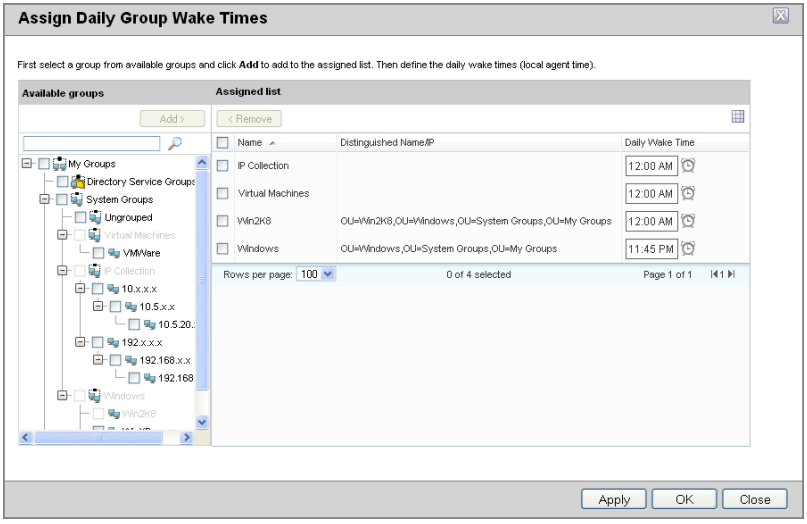


Figure 37: The Assign Daily Group Wake Times Dialog

4. Select the groups from the ***Available groups*** list to add to the **Assigned** list.

> **Tip:** You can use the **Available groups** field to search for groups.

5. Click **Add**.

   Step Result: The selected groups are added to the ***Assigned list***.

6. Set the **Daily Wake Time** for each group.
   a) Type a time in all empty **Daily Wake Time** fields (`hh:mm`). You can type time in 12-hour or 24-hour formats.

   Tip: Click the **Clock** icon to select a time from a menu. Times are available for every 30 minute interval.

7. Click **Apply** after edits are completed.

   Step Result: Your changes are applied (dialog remains open).

8. Click **OK**.

   Step Result: Your changes are applied and the ***Assign Daily Group Wake Times*** dialog closes.

9. Click **Save**.

Result: The endpoints are configured to be woken at the defined wake times.

Note: For more information on creating and managing groups, refer to the *Lumension Endpoint Management and Security Suite 7.1 User Guide* (*http://portal.lumension.com*).

After Completing This Task:

Complete *Calculating Endpoint Wake Times* on page 61.

Wake Endpoints from the Endpoint Wake Times Tab

You can wake managed endpoints at any time.

Perform this task from the ***Endpoint Wake Times*** tab.

1. Select **Tools** > **Wake on LAN**.

   Step Result: The page opens to the ***WOL Configuration*** tab.

2. Select the ***Endpoint Wake Times*** tab.

   Step Result: The ***Endpoint Wake Times*** tab opens.

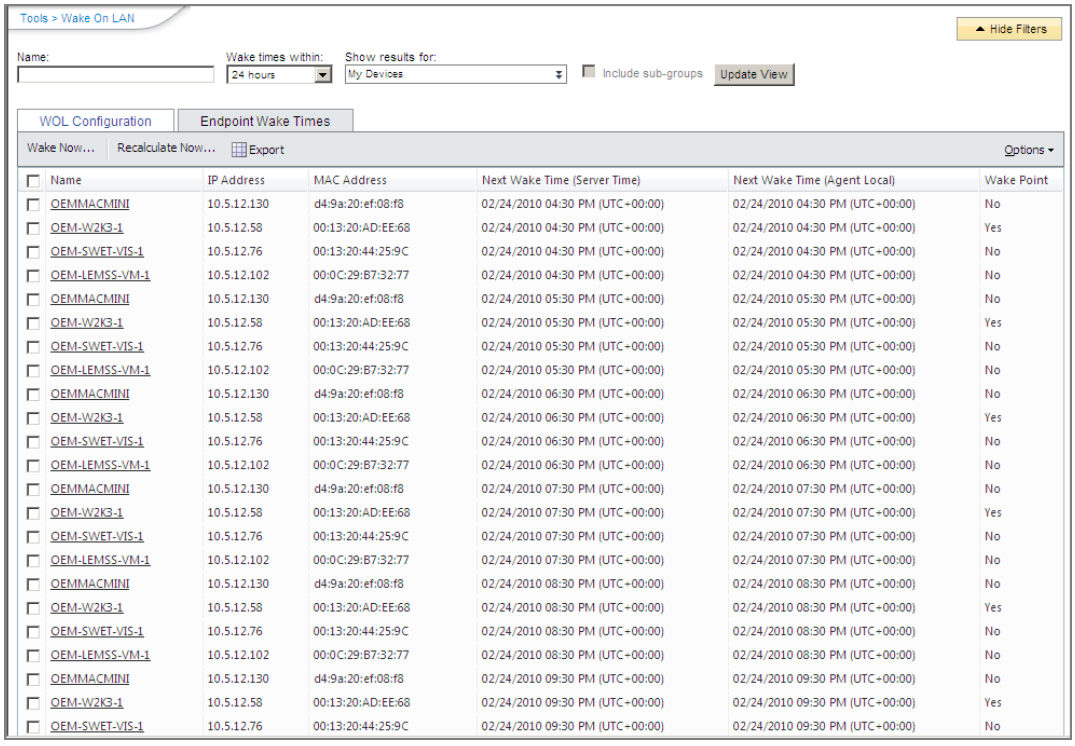


Figure 38: Endpoint Wake Times Tab

3. Select the check box(es) associated with the endpoint(s) you want to wake.
4. Click **Wake Now...**.

   Step Result: The ***Wake Now*** dialog appears.

5. Click **OK** to confirm the wake action.

Result: The selected endpoint(s) are woken within five minutes.

Wake Endpoints from the Manage Endpoints Page

After installing Wake on LAN, you can wake managed endpoints immediately from the ***Endpoints*** page.

Wake endpoints immediately from the ***Endpoints*** page ***All*** tab.

1. Select **Manage** > **Endpoints**.

   Step Result: The ***Endpoints Page*** opens to the ***All*** tab.

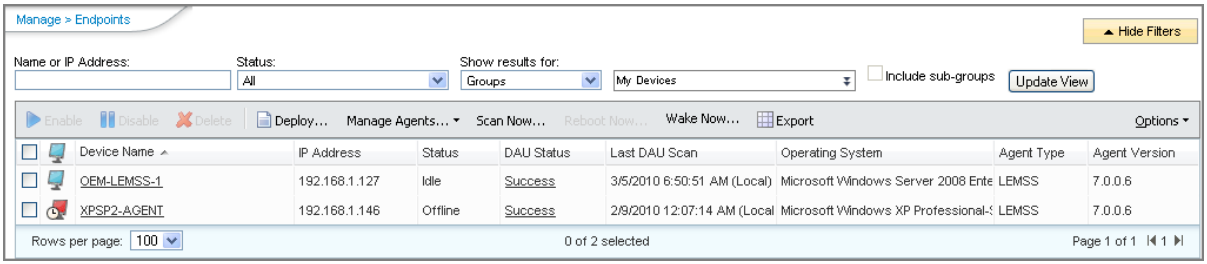


Figure 39: Endpoints Page

2. Select the check box(es) associated with the endpoint(s) you want to wake.
3. Click **Wake Now...**.

   Step Result: The ***Wake Now*** dialog appears.

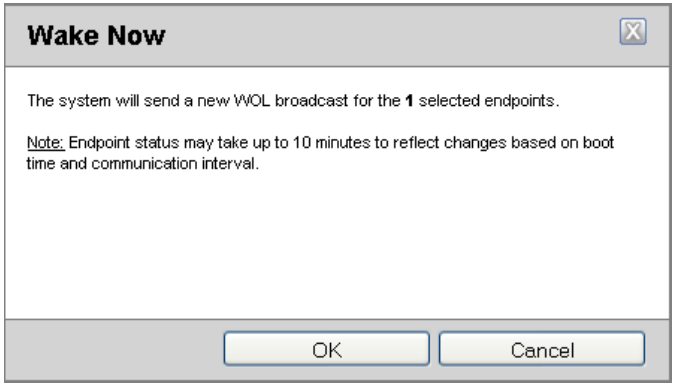

Wake Now
The system will send a new WOL broadcast for the 1 selected endpoints.
Note: Endpoint status may take up to 10 minutes to reflect changes based on boot time and communication interval.
OK
Cancel

Figure 40: Wake Now Dialog

4. Click **OK** to confirm the wake action.

Result: The wake signal is broadcast. Selected endpoints will boot within ten minutes.

Waking Endpoints (Groups Page)

After installing Wake on LAN, you can wake managed endpoints immediately from the ***Groups*** page ***Endpoint Membership*** view.

Wake endpoints from the ***Groups*** page ***Endpoint Membership*** view.

1. Select **Manage** > **Groups**.

   Step Result: The ***Groups*** page opens.

2. From the **View List**, select **Endpoint Membership**.

   Step Result: The ***Endpoint Membership*** view opens.

3. Ensure the **All** tab is selected.
4. From the directory tree, select the group containing endpoints you want to reboot.
5. Select the check box(es) associated with the endpoint(s) you want to wake.
6. Click **Wake Now**.

   Step Result: The ***Wake Now*** dialog appears.

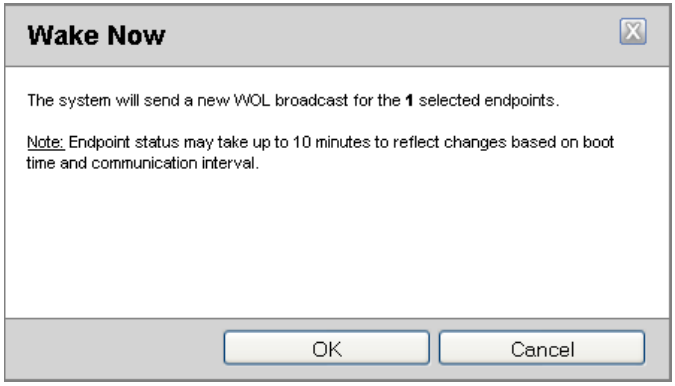

Wake Now
The system will send a new WOL broadcast for the 1 selected endpoints.
Note: Endpoint status may take up to 10 minutes to reflect changes based on boot time and communication interval.
OK
Cancel

Figure 41: Wake Now Dialog

7. Click **OK** to confirm the wake action.

Result: The wake signal is broadcast. Selected endpoints will wake within ten minutes.